ORDER NO. VRD9710035C3

Service Manual

Video Cassette Recorder

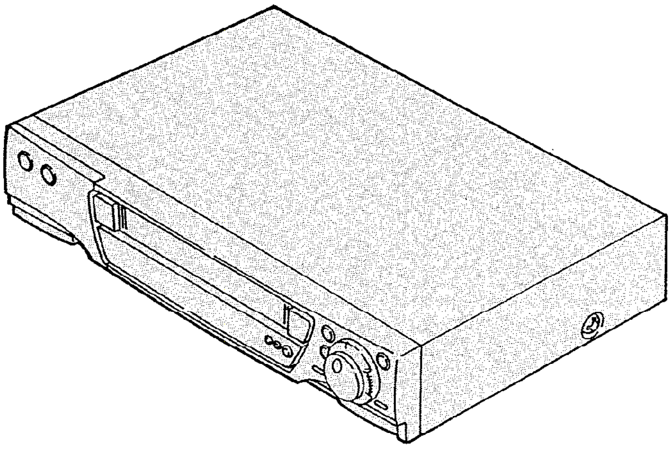
Panasonic VHS
PAL / NTSC

Hi-Fi HQ

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

NV-SD570AM/EU
NV-HD670BD

Z-MECHANISM



Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

SPECIFICATIONS

ITEM	SPECIFICATION	
POWER	SOURCE :110 V- 240 V, 50/60 Hz	
	CONSUMPTION :17 watts (SD570AM/EU) 22 watts (HD670BD)	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL / NTSC	
TV TUNER SYSTEM	CHINA (D)	VHF :CH C1 – CH C12, 75 Ω unbalanced CATV:CH Z1- CH Z35 UHF :CH C13 – CH C57, 75 Ω unbalanced
	CCIR (B,G,H)	VHF :CH E2 – CH E12, 75 Ω unbalanced CATV:CH S01- CH S05 CH M1- CH M10 CH U1- CH U10 CH S21- CH S41 UHF :CH E21- CH E69, 75 Ω unbalanced
	OIRT (D,K,K1)	VHF :CH R1 – CH R12, 75 Ω unbalanced CATV:44 – 470 MHz UHF :CH E21 – CH E69, 75 Ω unbalanced
	USA	VHF :CH 2 – CH 13, 75 Ω unbalanced CATV:CH 5A, CH A-5 – CH FFF UHF :CH 14 – CH 79, 75 Ω unbalanced
	JAPAN	VHF :CH 1 – CH12, 75 Ω unbalanced CATV:CH C13 –CH C63 UHF :CH 13 – CH 62, 75 Ω unbalanced
RF OUT SYSTEM	CHINA (D)	UHF :CH 25 $\pm^{2}_{3}$ 71±3dBμ, 75 Ω terminated
	CCIR (B,G,H) OIRT (D,K,K1)	UHF :CH 38 $\pm^{2}_{8}$ 71±3dBμ, 75 Ω terminated
	USA	UHF :CH 26 – CH 39 71±3dBμ, 75 Ω terminated

ITEM	SPECIFICATION	
RF OUT SYSTEM	JAPAN	UHF :CH 25 – CH 38 71±3dBμ, 75 Ω terminated
VIDEO	HEADS : 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L'-R' heads)	
	INPUT : VIDEO IN Connector (Phono type X2) 1.0 Vp-p, 75 Ω terminated	
	OUTPUT : VIDEO OUT Connector (Phono type) 1.0 Vp-p, 75 Ω terminated	
AUDIO	HEAD : 1 Stationary head (Normal Audio) 2 rotary heads (Hi-Fi Audio) (HD670BD only)	
	INPUT : AUDIO IN Connector (Phono type X2) – 6 dBV (500 mV), More than 50kΩ	
	OUTPUT : AUDIO OUT Connector (Phono type) – 6 dBV (500 mV), Less than 1kΩ	
TAPE FORMAT	VHS Cassette tape (Tape width 12.7 mm)	
TAPE SPEED	PAL SP : 23.39 mm/s PAL LP : 11.7 mm/s NTSC SP : 33.3 mm/s NTSC EP : 11.1 mm/s Record / Playback Time : SP : 4 hours with 240 min. type tape (NV-E240) LP : 8 hours with 240 min. type tape (NV-E240) FF / REW Time : Approx. 87 seconds with 180 min. type tape (NV-E180)	
OPERATING CONDITION	Temperature : 5 ℃ – 40 ℃ Humidity : 35 % – 80 %	
DIMENSIONS	430 (W)X 87 (H)X 306 (D) mm	
WEIGHT	3.9 kg	
STANDARD ACCESSORIES	1 pc. Remote Controller 1 pc. AC Cord 1 pc. DIN RF Cable 1 pc. Phono Cable (NV-HD670BD only) 1 pc. AC Plug Adaptor (NV-SD570AM only)	

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.
Section 2 presents to you mechanical and electrical adjustment information as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function etc. ...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note : The Model No. is indicated on the Schematic Diagram and Circuit Board Diagram as follows.

Model No.	NV-SD570AM	NV-SD570EU	NV-HD670BD
Indication Mark	(A)	(B)	(C)

ВВЕДЕНИЕ

Эта инструкция по техническому обслуживанию содержит техническую информацию, которая позволяет обслуживающему персоналу понимать и обслуживать эту модель.
Глава 1 дает Вам технические ноу-хау для эффективного обслуживания и общую информацию о технических характеристиках и управлении, что позволяет Вам знать подробно каждую функцию.
Глава 2 дает Вам информацию о технической и электрической регулировках и о процедуре разборки и замены. В случае, если нужна общая информация, например, о технической регулировке других моделей, то смотрите пожалуйста соответствующую инструкцию по техобслуживанию.
Глава 3 содержит блок-схемы, дающие информацию для проверки и понимания каждой цепи. Принципиальные схемы дают Вам подробную информацию такую, как формы волн, данные напряжения, функции и т.д.
Глава 4 включает в себе перспективные изображения и списки деталей.
В случае заказов, ссылайтесь пожалуйста, на списки деталей, а не на справочные номера на чертежах.
Если цепи изменяются или модернизируются, то такая информация будет предоставлена дополнительной инструкцией по техобслуживанию для дополнения оригинальной инструкции по техобслуживанию.

Примечание: Номер модели указан в принципиальных схемах и схемах монтахных плат, как ниже указано:

Номер модели	NV-SD570AM	NV-SD570EU	NV-HD670BD
Указательный знак	(A)	(B)	(C)

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SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over, and then connect Extension Cable.(VFK2744) between the POWER C.B.A. connector (P1103) and the MAIN C.B.A. connector (P1001) as shown in Fig. S1.

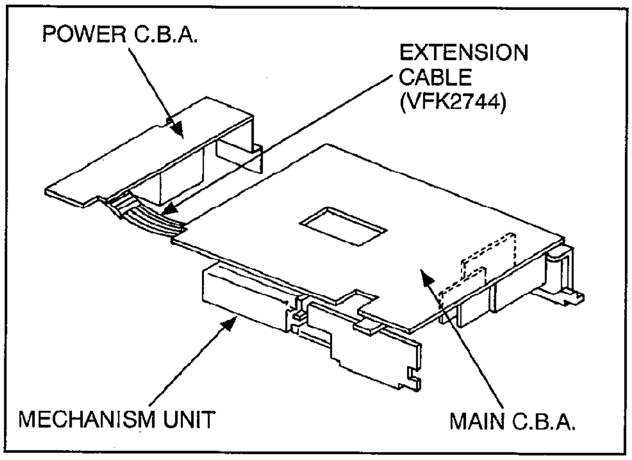

POWER C.B.A.
EXTENSION CABLE (VFK2744)
MECHANISM UNIT
MAIN C.B.A.

Fig. S1

1-1-2. CYLINDER UNIT REPLACEMENT

A. CYLINDER UNIT REPLACEMENT

Remove the 3 Screws (A) of the CYLINDER UNIT with a magnetized screw driver.

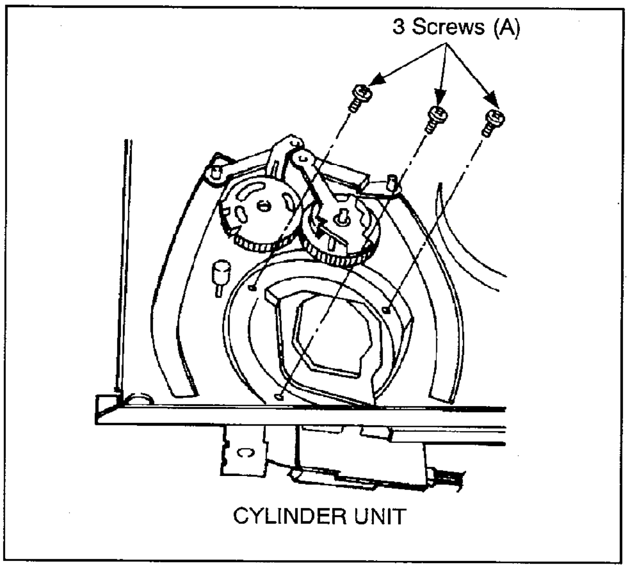

3 Screws (A)
CYLINDER UNIT

Fig. S2

B. UPPER CYLINDER DISASSEMBLY (NV-HD670BD ONLY)

1) Remove the Top Panel.
2) Remove the screw (B) and Earth Plate.
3) Move the lock pinch to the left side in order to release the cylinder lock.
4) Keep turning the Upper cylinder clockwise and counterclockwise alternately and remove Upper cylinder.

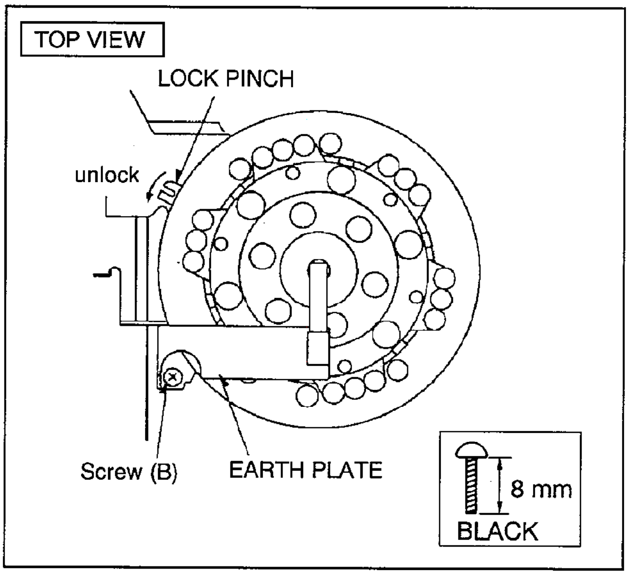

TOP VIEW
LOCK PINCH
unlock
Screw (B)
EARTH PLATE
8 mm
BLACK

Fig. S3

C. UPPER CYLINDER ASSEMBLY (NV-HD670BD ONLY)

1) When mount the Upper cylinder, the lock of it has to be released.
   Keep turning Upper cylinder clockwise and counterclockwise alternately and keep pressing it until it is mounted completely.
2) Move the lock pinch to right side in order to fix the Upper cylinder after the Upper cylinder has been mounted.

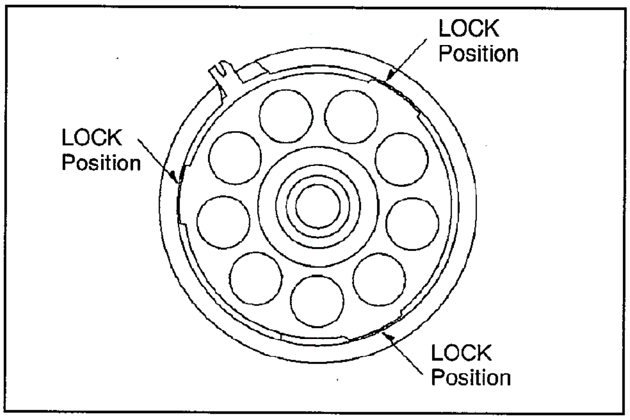

LOCK Position
LOCK Position
LOCK Position

Fig. S4

D. UPPER CYLINDER DISASSEMBLY (NV-SD570AM/EU ONLY)

1. Remove 2 screws (A).
2. Remove the Cylinder Stator Unit.
3. Remove 2 screws (B).
4. Remove the Cylinder Rotor Unit.
5. Loose hex screw (C) and remove the Cylinder Retainer. (Use Hex. key Wrench 1.5mm)
6. Remove the Upper Cylinder .

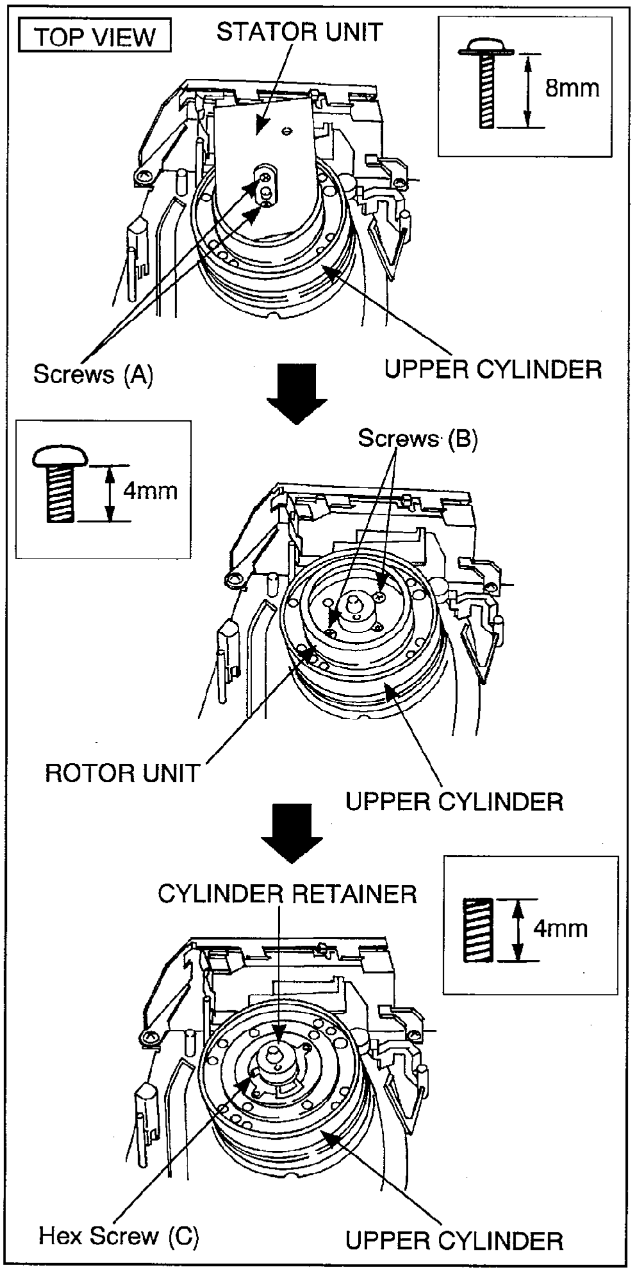

TOP VIEW
STATOR UNIT
8mm
Screws (A)
UPPER CYLINDER
4mm
Screws (B)
ROTOR UNIT
UPPER CYLINDER
CYLINDER RETAINER
4mm
Hex Screw (C)
UPPER CYLINDER

Fig.S5

E. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order.

1) Install the Cylinder Retainer so that the 2 holes on top of the Cylinder Retainer are at right angles with the Head Amp C.B.A..
2) Tighten the hex screw (C) while pressing down on top of the Cylinder Retainer. (Use Hex. key Wrench 1.5mm)

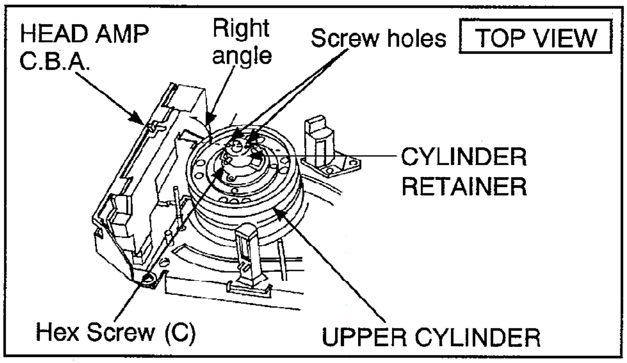

HEAD AMP C.B.A.
Right angle
Screw holes
TOP VIEW
CYLINDER RETAINER
Hex Screw (C)
UPPER CYLINDER

Fig.S6

3) Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.
4) Tighten 2 screws (B).

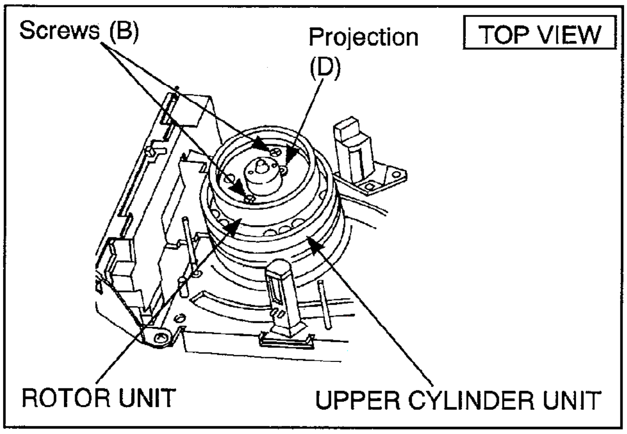

Screws (B)
Projection (D)
TOP VIEW
ROTOR UNIT
UPPER CYLINDER UNIT

Fig.S7

5) Install the Cylinder Stator Unit so that the rear side of the Cylinder Stator C.B.A. is parallel with the Head Amp C.B.A..
6) Tighten 2 screws (A).

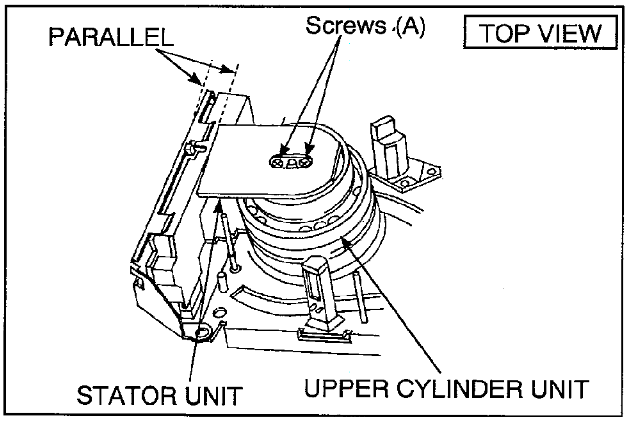

PARALLEL
Screws (A)
TOP VIEW
STATOR UNIT
UPPER CYLINDER UNIT

Fig.S8

7) Confirm the PG SHIFTER ADJUSTMENT with the alignment tape (NTSC: VFM8080HQFP and PAL: VFJ8125H3F) and adjust it if necessary.

1-1-3. CHANNEL MEMORY IC INITIALIZATION

When replacing the channel memory IC6007 (S-29255ADP :NV-SD570AM / EU) ,(S-29355ADP:NV-HD670BD) its IC should be initialized.

Method :

1) Press the CH UP / DOWN button so that the channel indicator indicates " 3 ".
2) Connect a jumper wire twice to TL7506 and TL7507.
3) Channel indication changes from " 3 " to " 1 ".

Note :

1) It should be performed before tuning.
2) Do not turn off the power source during initialization or 1 second after.
3) Meaning of " INITIALIZATION " is to make dependency in different models and to distinguish between different features.

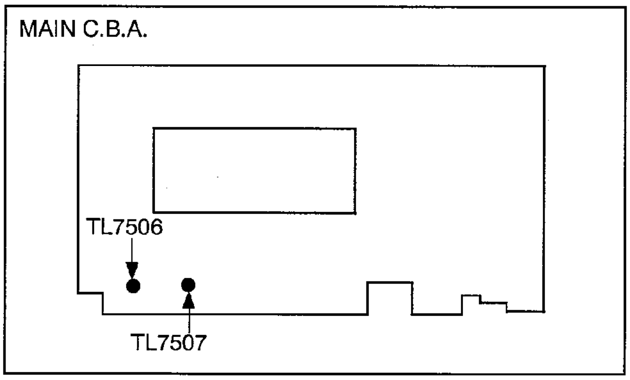


Fig. S9

1-2. SELF-TEST & SERVICE INFORMATION DISPLAY

Refer to the Service Manual for Z Mechanism Chassis.
(Order No.: VRD9612M129)
NOTE: Turning on Service Information Display.
Turn the Shuttle Ring to FF then press EJECT button.

1-3. CAUTION DURING AUTO TUNING

PROCEDURE

Auto Tuning will start by the following procedure.

1. Connect the DIN-RF Cable.
2. Connect the AC Mains Lead.
3. Turn on the VCR.
   Auto Tuning will start.
   Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned program position. Other program positions are skipped.
   Auto Tuning takes seven or more minutes to complete its search.
   Do not touch the VCR during Auto Tuning.
   Auto Tuning will stop halfway, if the VCR is operated or the aerial lead and/or the mains lead are disconnected.
   In case the VCR stopped during Auto Tuning, the VCR have to be reset and restarted. See the following item 2.

NOTE

1. If the VCR is turned on with the antenna not connected, all channels are skipped. Therefore, firmly connect the antenna and then turn the VCR off and on again to execute Auto tuning.
2. **When Auto Tuning is canceled halfway, Auto Tuning is not executed even if the VCR is turned off and then turned on again.**
   In this case, Auto Tuning have to be restarted by the following procedure.
   (1) Press EJECT and remove the Video cassette.
   (2) Keep Λ and V (UP/DOWN) on the VCR pressed simultaneously for 3 seconds or more during the VCR on.
   The channel displayed on the VCR display disappears for a moment then changes to 1.
   (3) Turn off the VCR and then turn it on. Auto Tuning commences.
3. If you turn the VCR off during Auto Tuning, Auto Tuning will stop halfway.
   The VCR should be reset and restarted by the item 2 in order to execute Auto Tuning.
4. If the VCR starts playback during Auto Tuning, Auto Tuning will stop halfway.
   The VCR should be reset and restarted by the item 2 in order to execute Auto Tuning.
5. To cancel Auto Tuning Mid-operation, press POWER during Auto Tuning (The VCR is turned off).
6. When the VCR is moved to the other area or country, TV broadcasts should be stored again.

1-4. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

1. Removal of compulsory loading.
   1) Turn the Shuttle Ring to FF then press EJECT button and set the Service Mode 7.
   2) Press STOP button in order to unload the mechanism. (Pay an attention of tape slag)
      Service Mode Indication:
      7 ※※ ※※ (STOP)→ 7 00 ※※ (EJECT)
2. Removal of manual operation of Main cam gear.
   1) Disconnect the AC power cord and remove Top Panel.
   2) Rotate Main cam gear to the clockwise and unload the mechanism (Tape is remaining).
3. Rotate the Pole of Capstan motor to the clockwise the from the bottom in order to remove the tape slag.
4. Rotate Main cam gear to the clockwise in order to eject the cassette tape.

1-5. TIMER REFERENCE CLOCK

In case of the following repair services (Parts Replacement) have been provided, Timer Reference Clock has to be reset due to the setting value changes at the shipment so that the accuracy of the time can be warranted.

a) Crystal oscillator (X6001) has been replaced.
b) EEPROM (IC6007) has been replaced.
It is not necessary to reset when the microprocessor of system control (IC6001) is replaced.

PROCEDURE FOR RESET OF TIMER REFERENCE CLOCK

When above two parts X6001 and / or IC6007 have been changed, resistors R7003 and R7004 also have to be changed as follows.

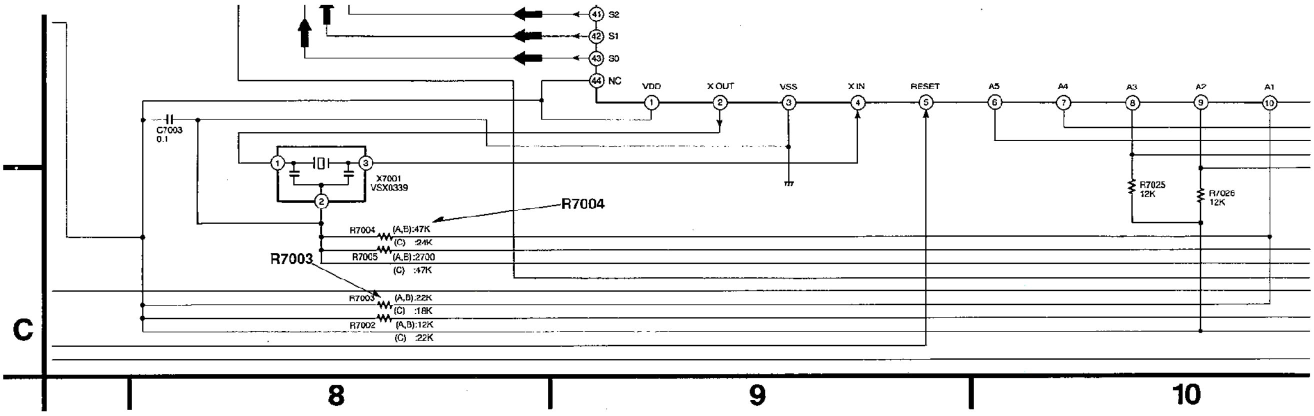
NV-SD570AM/EU

	Before replacing X6001 and/or IC6007	After replacing X6001 and/or IC6007
R7003	ERJ6GMYJ223 (22KΩ)	ERJ6GMYJ123(12KΩ)
R7004	ERJ6GMYJ473 (47KΩ)	ERJ6GMYJ272(2.7KΩ)

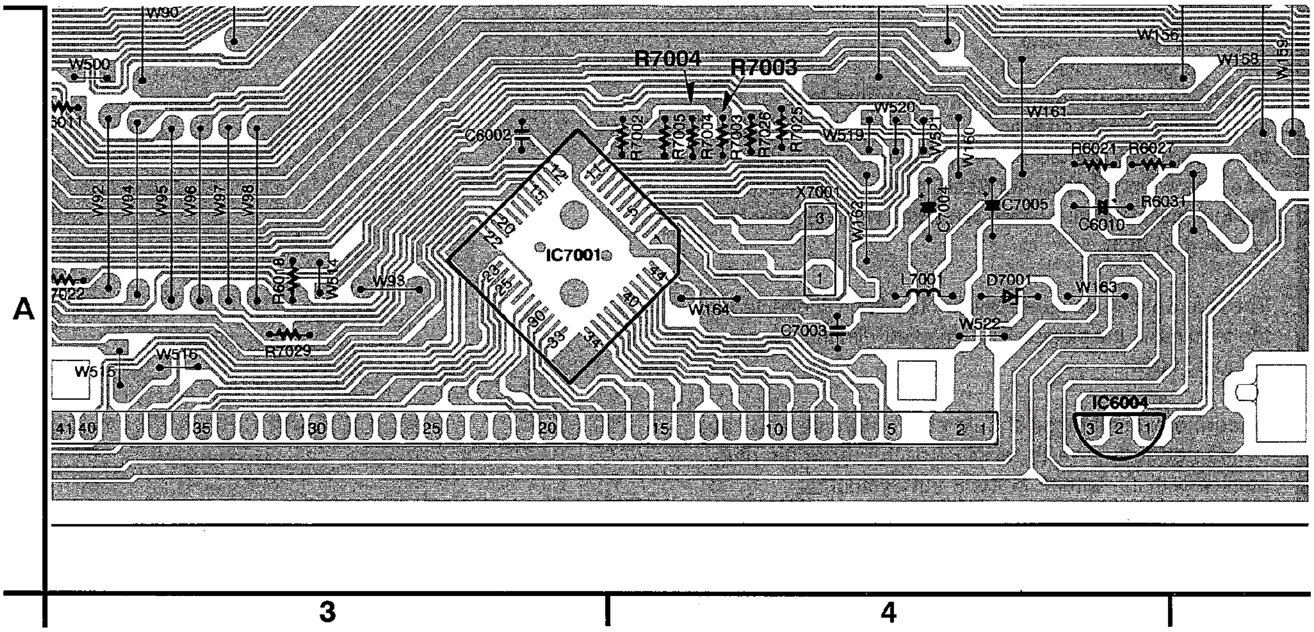
NV-HD670BD

	Before replacing X6001 and/or IC6007	After replacing X6001 and/or IC6007
R7003	ERJ6GMYJ183 (18KΩ)	No mounted
R7004	ERJ6GMYJ243 (24KΩ)	ERJ6GMYJ103 (10KΩ)

SYSTEN CONTROL & SERVO / TIMER / DRIVE SECTION IN MAIN SCHEMATIC DIAGRAM


S2
S1
S0
NC
VDD
XOUT
VSS
XIN
RESET
A5
A4
A3
A2
A1
C7003
0.1
X7001
VSX0339
R7004
R7004 (A,B):47K
(C) :24K
R7005 (A,B):2700
(C) :47K
R7003
R7003 (A,B):22K
(C) :18K
R7002 (A,B):12K
(C) :22K
R7025
12K
R7026
12K
C
8
9
10

MAIN C.B.A.


R7004
R7003
W90
W500
W156
W158
W159
C6002
R7002
R7005
R7004
R7003
R7026
R7025
W520
W519
W161
R6021
R6027
W92
W94
W95
W96
W97
W98
IC7001
X7001
C7005
R6031
C6010
R6018
W514
W93
W164
L7001
D7001
W163
C7003
W522
W515
W516
R7029
7022
IC6004
A
3
4

Caution for AC Mains Lead

For your safety please read the following text carefully
This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS 1362.
Check for the ASTA mark ◈ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

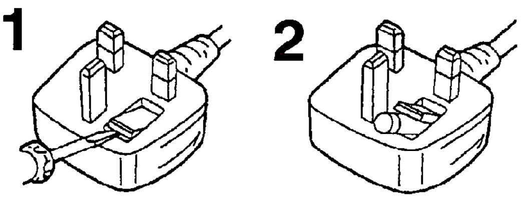
Under no circumstance should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚.

How to replace the Fuse

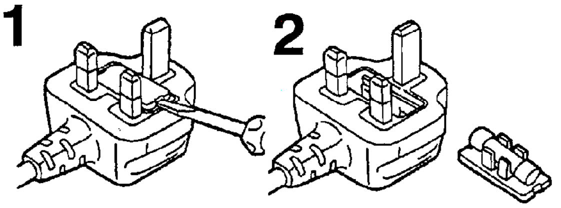
- There are two types of the AC Mains Lead assembly: **A** and **B** as shown below.

1 Open the fuse compartment with a screwdriver.
2 Replace the fuse and fuse cover.

TYPE A



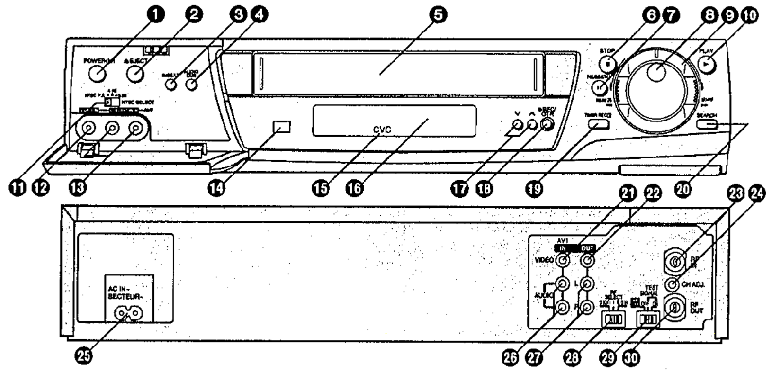
TYPE B

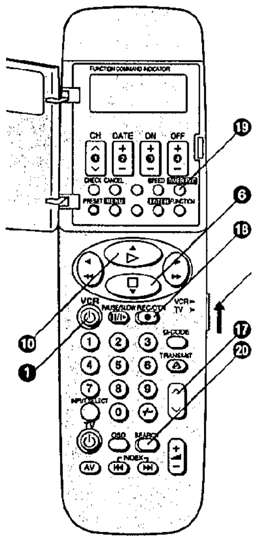


1-6. OPERATING INSTRUCTIONS (HV-HD670BD)

Controls and Connection Sockets

This section describes in detail the function of each button, switch and connection socket.





Set **VCR/TV** switch to **VCR** for using ∨ ∧.

FRONT

① **POWER ⏻/I (VCR ⏻)**
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.

② **EJECT**
Ejects a video cassette.

③ **INSERT**
Sets up the VCR for insert editing.
INSERT is appeared on screen display.

④ **AUDIO DUB**
Sets up the VCR for audio dubbing.
A.DUB is appeared on screen display.

⑤ **Cassette Compartment**
Insert a video cassette here.

⑥ **STOP**
Stops any playback or recording.
Ejects the video cassette.

⑦ **PAUSE/STILL**
In the stop mode: Still picture (Jog/Shuttle mode).
During playback:
- By pressing: Still picture. "▯▯" is lit. (Jog/Shuttle mode).
- By pressing for 2 seconds or more: Slow playback. "▯▷" is lit.

During recording: Interrupts recording.

⑧ **Jog Dial**
Locates any desired frame with utmost precision.

⑨ **Shuttle Ring**
In the stop mode: Rewinds or fast forwards the tape.
In the playback mode:
Searches picture backward or forward.
In the still playback mode:
Adjusts playback speed backward or forward.
In the rewind or fast forward mode:
Obtains high speed picture.

⑩ **PLAY**
Starts playback.
"▷" is lit.
For the repeat playback function.

⑪ **NTSC SELECT**
Set according to the colour TV system.
NTSC P.B.: For TVs that can receive PAL signals. The output signal is the quasi-PAL system.
4.43: When receiving NTSC 4.43 signals. For TVs that can receive NTSC 4.43 signals.
3.58: When receiving NTSC 3.58 signals. For TVs that can receive NTSC 3.58 signals.

⑫ **VIDEO IN (AV2)**
Connects a video cable from a movie camera or another unit.

⑬ **AUDIO IN (AV2)**
Connects an audio cable from a movie camera or another unit.

⑭ **Infra-red Remote Control Receiver Window**

⑮ **CVC (Crystal View Control) Indicator**
This indicator is lit when the VCR is on.

⑯ **Display**

⑰ **∨ ∧**
Selects the required programme position (TV station) of the VCR.

For tracking adjustment and vertical locking adjustment
- For manual tracking adjustment
  The ∨ and ∧ buttons are used to adjust the tracking when, for example, noise bars on the picture during normal playback are better removed manually than by automatic digital tracking control. To return to automatic digital tracking control, press both buttons together.
- For slow tracking adjustment
  When noise bars appear during still or slow playback, switch over to slow playback and adjust with the ∨ or ∧ button to reduce the noise bars.
- For vertical locking adjustment
  Use the ∨ and ∧ buttons to minimize any vertical jitter during still picture playback.

Set **VCR/TV** switch to **VCR** for using ∨ ∧ of remote controller.

⑱ **REC/OTR**
Starts recording.
For One-Touch Recording (OTR).

⑲ **TIMER REC**
Turns the timer recording function on and off.
⊡ is lit or not lit.
Once you operate the timer recording function, normal VCR operation is not possible unless you press this button again and release the VCR from the timer recording standby mode.

⑳ **SEARCH**
Searches a recorded programme using the programme list search after timer recording and using the intro-jet scan functions.

REAR

㉑ **VIDEO IN (AV1)**
Connects a video cable from a movie camera or another unit.

㉒ **VIDEO OUT**
Connects a video cable to a TV or another unit.

㉓ **RF IN**
Connects the external aerial.

㉔ **CH ADJ.**
Adjusts RF transmitting channel C22–27 (E30–40, US26–39, J25–38).

㉕ **AC IN~**
Connects the main power supply.

㉖ **AUDIO IN (AV1)**
Connects an audio cable from a movie camera or another unit.

㉗ **AUDIO OUT**
Connects an audio cable to a TV or another unit.

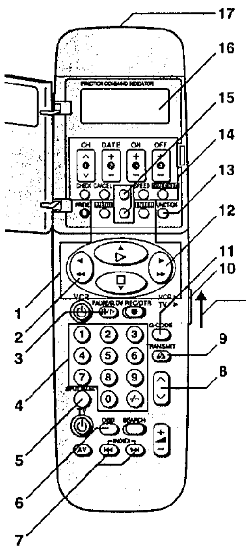
㉘ **RF SELECT**
Selects the colour TV system used by the TV to be connected.
D.K.K1: PAL D/SECAM D.K.K1
I: PAL I
B.G.H: PAL B.G.H/SECAM B.G

㉙ **RF OFF/TEST SIGNAL**
RF OFF: Set to this position when the VCR is connected to the TV via the Audio/Video cable.
TEST SIGNAL OFF:
Set to this position when the VCR is connected to the TV via RF coaxial cable only.
TEST SIGNAL ON:
Set to this position when tuning the TV into the VCR. The test signal is transmitted on channel C25 (CHINA), E38 (CCIR), US between 36 and 37 (NTSC) or J between 35 and 36 (NTSC) initially.

㉚ **RF OUT**
Connects the aerial terminal on a TV.

Infra-red Remote Controller

VCR OPERATION



Set the VCR/ TV switch to **VCR** to use the ∨ ∧ and the **numeric buttons.**

1 **On Screen Display Menu Operation Buttons**
The buttons with the green characters are ones which are used for the on screen display menu operations.

MENU:	Makes the On Screen Display main menu appear on the TV screen.
ENTER:	Confirms the selection, or stores.
▲ ▼ ◄ ►:	Makes selections from On Screen Display. •These buttons can also be used for the playback, stop, rewind and fast forward mode.

2 **◄◄ (REWIND)**

In the stop mode:	Rewinds the tape.
In the playback mode:	Searches back.
In the rewind mode:	Obtains a high speed picture.

"◁◁" is lit.

3 **PAUSE/SLOW**
During playback:
•When pressed once: Still picture. "▯▯" is lit.
•When pressed for 2 seconds or more:
Slow playback. "▯▷" is lit.
During recording: Interrupts recording.

4 **Numeric Buttons**
Ensure that the **VCR/TV** switch is set to **VCR.**
•Selects the programme positions (1–99) of the VCR.

9: ⑨

19: (-/--) → ① → ⑨

•Programmes G-Code numbers.

5 **INPUT SELECT**
Selects the A1 or A2 external recording source.

6 **OSD**
For the On Screen Display Function.

7 **INDEX**
For the index search function.

8 **∨ ∧**
Ensure that the **VCR/TV** switch is set to **VCR.**

Selects the required programme position (TV station) of the VCR.

These buttons can also be used for tracking adjustment and vertical locking adjustment.
See page 5.

9 **TRANSMIT**
Transmits the data that has been set on the remote controller to the VCR.

10 **VCR/TV switch**
VCR: Selects the VCR operation mode.
TV: Selects the TV operation mode.

11 **G-CODE**
Used for G-Code programming.

12 **►► (FAST FORWARD)**

In the stop mode:	Fast forwards the tape.
In the playback mode:	Searches forward.
In the fast forward mode:	Obtains a high speed picture.

"▷▷" is lit.

13 **FUNCTION**
Displays or select the command menu on the display of the remote controller.
Press this button repeatedly until the desired command menu flashes on and off, and then press **TRANSMIT.**

FUNCTION
TRANSMIT

AUDIO OUT:
Selects the desired sound mode.
At the every push of **TRANSMIT** button, the audio output mode changes as follows.
→Stereo→Left→Right→Normal audio track

The Left (L) and Right (R) Indicators shown which sound mode is selected as follows on the On Screen Display.

Stereo:	Both the L and R Indicators appear.
Left:	The L Indicator appears.
Right:	The R indicator appears.
Normal:	Neither the L nor R Indicator appears.

DISPLAY:
Changes the indication on the VCR Display or On Screen Display as follows.
→Clock→Counter→Remaining Tape Time

RESET:
Resets the tape counter (elapsed time) to "0:00.00".
•The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

14 **Timer Recording Operation Buttons**

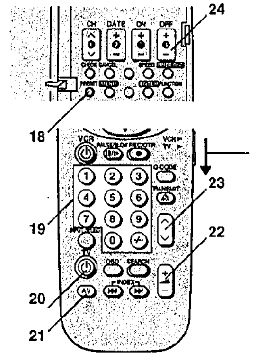
CH, DATE, ON, OFF:	Programmes a timer recording.
CHECK:	Checks timer programmes.
CANCEL:	Cancels timer programmes.
SPEED:	Selects the desired tape speed for recording. SP gives the best picture quality. LP (EP) gives the longest recording time. •The indicator (SP, LP or EP) corresponding to the selected speed now appears on the VCR display or on screen display. LP: This appears when PAL/ MESECAM signals are input or output. EP: This appears when NTSC signals are input or output.
TIMER REC:	Turns the timer recording function on and off. ⏲ is lit or not lit. Once operating timer recording function, the normal VCR operation is not possible unless this button is set to off.

15 These buttons are not used to operate this VCR.

16 **Display**

17 **Infra-red Transmitter**
The programming data are transmitted from here to the VCR.

TV OPERATION



Set the **VCR/TV** switch to TV to use the ∨ ∧ and the **numeric buttons.**

18 **PRESET**
Sets the remote controller for operation of the TV.
Refer to page 14.

19 **Numeric Buttons**
Selects programme positions (1–99) of the TV.
•Ensure that the **VCR/TV** switch is set to **TV.**

20 **TV ⏻**
Press to switch the TV from on to standby mode or vice vesa. In standby mode, the TV is still connected to the mains.
•With some TV models, it may only be possible to switch the TV to the standby mode using this button. In this case, use the **numeric buttons, AV** or ∨ ∧ to switch the TV on.

21 **AV**
Selects TV Input.

22 **◢**
Adjusts the volume of the TV.

23 **∨ ∧**
Selects the required programme position (TV station) of the TV.
•Ensure that the **VCR/TV** switch is set to **TV.**

24 **OFF**
Sets the remote controller for operation of the TV.
Refer to page 14.

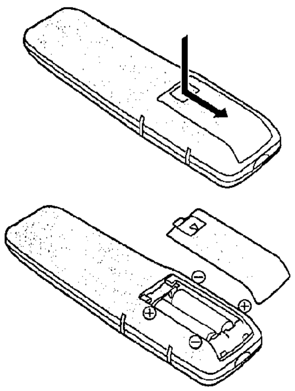
Power Source for the Remote Controller

The remote controller is powered by 2 "AA", "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



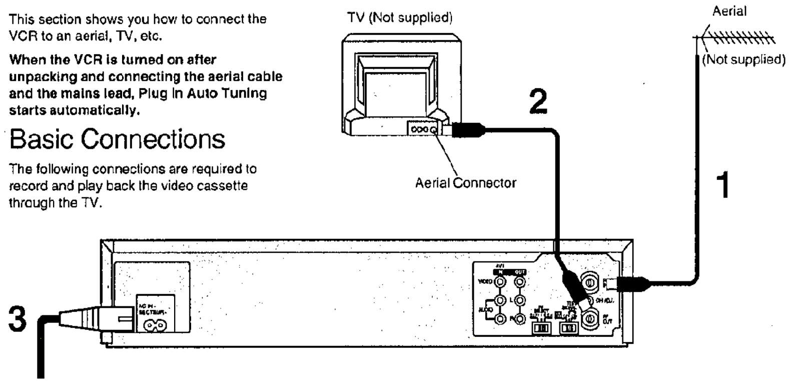
Connections

This section shows you how to connect the VCR to an aerial, TV, etc.

When the VCR is turned on after unpacking and connecting the aerial cable and the mains lead, Plug In Auto Tuning starts automatically.

Basic Connections

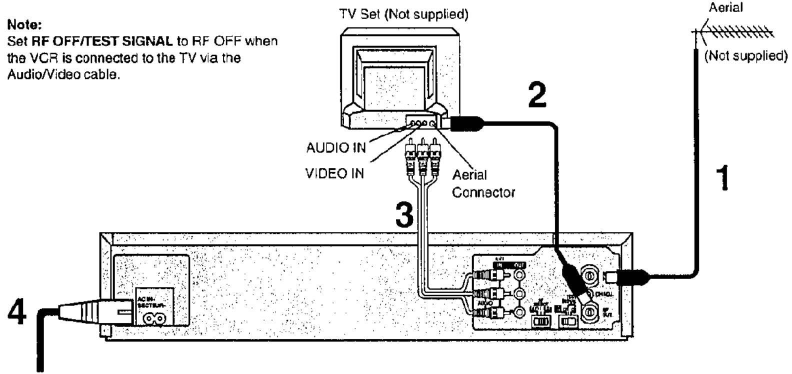
The following connections are required to record and play back the video cassette through the TV.


TV (Not supplied)
Aerial
(Not supplied)
2
Aerial Connector
1
3

To mains supply

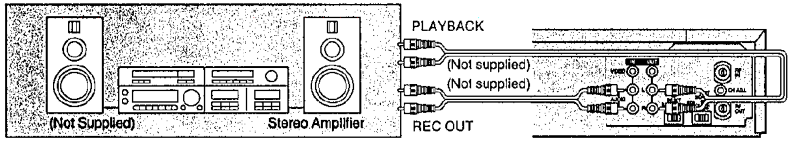
Connection to a TV using the Audio/Video Input Sockets

Note:
Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the Audio/Video cable.

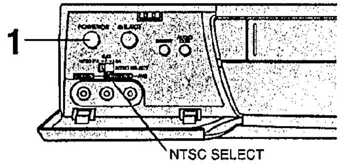

TV Set (Not supplied)
Aerial
(Not supplied)
2
AUDIO IN
VIDEO IN
Aerial Connector
1
3
4

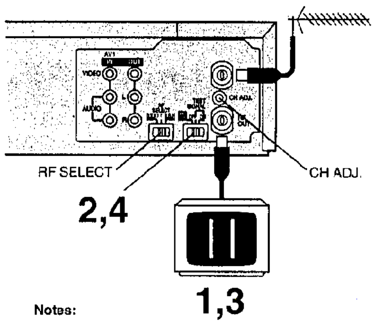
To mains supply

•Connection to a Stereo Amplifier


PLAYBACK
(Not supplied)
(Not supplied)
REC OUT
(Not Supplied)
Stereo Amplifier

Tuning the TV to your VCR





The VCR supplies a signal to the TV via the RF coaxial cable on channel C25, E38, US between 36 and 37 or J between 35 and 36.

It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VCR to the TV through the video and audio input sockets, then you do not need to follow the procedure below.

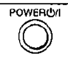
When the VCR is turned on after unpacking and connecting the aerial cable and the mains lead, Plug in Auto Tuning starts automatically.

Notes:

- If the VCR is turned on with the antenna not connected, all channels are skipped. Therefore, firmly connect the antenna and then turn the VCR off and on again to execute Auto Tuning.
- When Auto Tuning is canceled halfway, Auto Tuning is not executed even if the VCR is turned off and then turned on again. In this case, see page 11 **"To restart Plug in Auto Tuning"**.

Operations

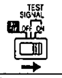
1



Turn on the TV and the VCR. Ensure that the VCR is connected to the aerial cable.

- Auto Tuning starts. (See next page.)

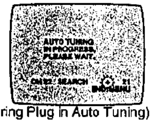
2

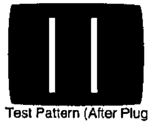


To generate a test pattern, set **RF OFF/ TEST SIGNAL** to ON.

3

On Screen Display



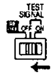


(During Plug in Auto Tuning) Test Pattern (After Plug in Auto Tuning)

Set the TV to an unused position which you wish to use for your video playback.

- Tune the TV until the test pattern appears on the screen.
- During Auto Tuning, the test pattern screen does not appear, and the Auto Tuning screen appears instead.

4



Set **RF OFF/TEST SIGNAL** to OFF.

Note:

The test signal is transmitted on video channel C25 (CHINA), E38 (CCIR), US between 36 and 37 (NTSC) or J between 35 and 36 (NTSC). If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (C22–27, E30–40, US26–39, J25–38) by turning the **CH ADJ.** screw located on the rear of the VCR.

When rotating the **CH ADJ.** screw, take care not to turn it too far.

Note that if the **CH ADJ.** screw is used, then you will have to retune your TV to the test signal following steps **2–4** above.

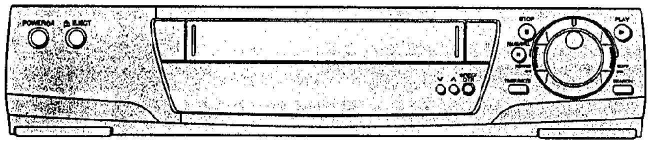
RF Selector (RF SELECT)

Use the **RF SELECT** to select the colour TV system used by the TV set to be connected.

D.K.K1: PAL D/SECAM D.K.K1
I: PAL I
B.G.H: PAL B.G.H/SECAM B.G

- When **NTSC SELECT** on the front panel is at the 3.58 position during NTSC playback or recording NTSC signal, the NTSC 3.58 system will be selected regardless of the position of the **RF SELECT**.

Storing TV Broadcasts in your VCR

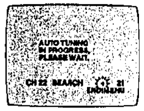


The VCR is fitted with its own tuner (just like a normal TV) and can be preset to receive up to 99 TV broadcast stations.

Plug in Auto Tuning

When the VCR is turned on after unpacking and connecting the aerial cable and the mains lead, Auto Tuning starts automatically.

On Screen Display



Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned programme position.

- If the VCR starts playback during Auto Tuning, Auto Tuning will stop halfway.

To Cancel Auto Tuning Mid-Operation:

Press **MENU** during Auto Tuning. This has the effect of canceling Auto Tuning. Another way to cancel it is to press **POWER** ⏻/I: in this case, however, the VCR is turned off.

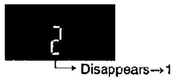
To restart Plug in Auto Tuning:

1 Press **EJECT** and remove the video cassette.

2 Keep ∨ and ∧ on the VCR pressed simultaneously for 3 seconds or more during the VCR on.

- The channel displayed on the VCR display disappears for a moment then changes to 1.

Display Symbol



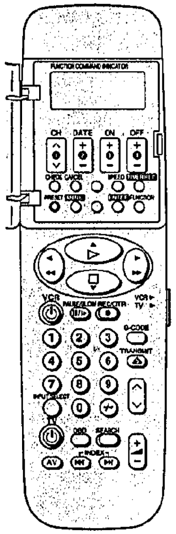
3 Turn off the VCR and then turn it on.

- Auto Tuning commences.

Auto Tuning using the On Screen Display

Introduction

The VCR is tuned automatically by Plug in Auto Tuning. However, Auto Tuning using the On Screen Display should be performed according to the following method if necessary.

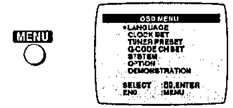

FUNCTION COMMAND INDICATOR
CH
DATE
ON
OFF
MENU
ENTER
VCR
TV
G-CODE
TRANSMIT
INPUT SELECT
OSD
SEARCH
INDEX
AV

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and select any programme position except A1 or A2.

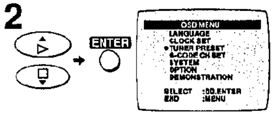
Operations / On Screen Display

1


MENU
OSD MENU
•LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▢▢,ENTER
END :MENU

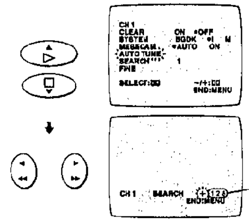
Press **MENU**.

2


ENTER
OSD MENU
LANGUAGE
CLOCK SET
•TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▢▢,ENTER
END :MENU

Select **TUNER PRESET**.

3


CH 1
CLEAR ON •OFF
SYSTEM BGDK •I M
MESECAM •AUTO ON
AUTO TUNE
SEARCH 1
FINE
SELECT:▢▢ –/+:▢▢
END:MENU
CH 1 SEARCH +124
END:MENU

Select **AUTO TUNE** and press ◀ or ▶.

- When Auto Tuning is completed, the on screen display disappears and programme position 1 is selected.
- After Auto Tuning, reset **SYSTEM** to BGDK for PAL B.G.D.K broadcast.
- Number of item **CH** may be different from one of item **SEARCH**.

The number displayed here is the number of channels still to be auto tuned.

Notes:

- Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned programme position. Other programme positions are skipped.
- Auto Tuning takes seven or more minutes to complete its search.
- If the VCR is not correctly tuned by Auto Tuning, follow the procedure on the next page.

Manual System Setting Procedure

1 Select desired programme position by pressing ∨ or ∧.
2 Press **MENU**.
3 Select **TUNER PRESET** by pressing ▲ or ▼ and **ENTER**.
4 Select **SYSTEM** by pressing ▲ or ▼ and then select the broadcasting system by pressing ◀ or ▶.
- BGDK: For receiving PAL B.G.H.D or SECAM B.G.D.K.K1 system broadcasts.
- I: For receiving PAL I system broadcasts.
- M: For receiving NTSC system broadcasts.

5 Press **MENU** twice.

Manual MESECAM Setting Procedure

1 Select desired programme position by pressing ∨ or ∧.
2 Press **MENU**.
3 Select **TUNER PRESET** by pressing ▲ or ▼ and **ENTER**.
4 Select **MESECAM** by pressing ▲ or ▼ and then select **ON** by pressing ◀ or ▶.
5 Press **MENU** twice.

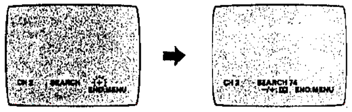
Manual Tuning Procedure

1 Press **MENU**.
2 Select **TUNER PRESET** by pressing ▲ or ▼ and **ENTER**.
3 Select **CH** by pressing ▲ or ▼ then select the channel number you want tuned by pressing ◀ or ▶.
4 Confirm that **CLEAR** is set to **OFF**.
5 Select **SYSTEM** by pressing ▲ or ▼ and then select the broadcasting system by pressing ◀ or ▶.
- BGDK: For receiving PAL B.G.H.D or SECAM B.G.D.K.K1 system broadcasts.
- I: For receiving PAL I system broadcasts.
- M: For receiving NTSC system broadcasts.

6 Select **MESECAM** by pressing ▲ or ▼ and then select **AUTO** by pressing ◀ or ▶.
- The VCR automatically distinguishes between PAL and SECAM broadcasts.
- If the picture lacks colour when **AUTO** is selected, select **ON**.

7 Select **SEARCH** by pressing ▲ or ▼ then press ◀ or ▶.

On Screen Display

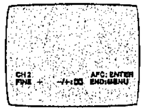

CH 2 SEARCH +74
END:MENU
CH 2 SEARCH 74
–/+:▢▢ END:MENU

- If the desired TV station has not been tuned, press ◀ or ▶ again.
- Press **MENU** and repeat steps 3–7 for each programme position you want to tune to a station.

8 To exit, press **MENU** three times.

Fine Tuning Procedure

1 Press **MENU**.
2 Select **TUNER PRESET** by pressing ▲ or ▼ and **ENTER**.
3 Select **CH** by pressing ▲ or ▼ then select the programme position by pressing ◀ or ▶.
4 Select **FINE** by pressing ▲ or ▼.
5 Press ◀ or ▶ to obtain the best tuning condition.


CH 2
FINE
–/+:▢▢
AFC: ENTER
END:MENU

- To return the tuning to its former state, press **ENTER**.

6 Press **MENU**.

Blanking of Unused Programme Positions

1 Press **MENU**.
2 Select **TUNER PRESET** by pressing ▲ or ▼ and **ENTER**.
3 Select **CH** by pressing ▲ or ▼ then select the programme position by pressing ◀ or ▶.
4 Select **CLEAR** by pressing ▲ or ▼.
5 Select **ON** by pressing ◀ or ▶.
- Repeat steps 3–5 for other unused programme positions to skip during the selection of programme positions.
- To cancel the blanking of a programme position, select that programme position then select **CLEAR OFF**.

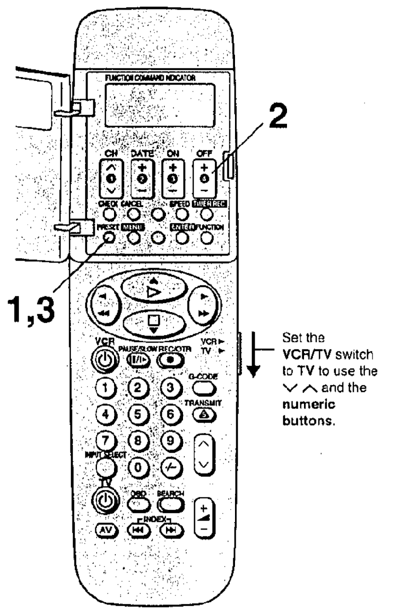
6 Press **MENU** twice.

Channels that can be Received

SYSTEM		VHF	CATV	UHF
B G D K	CCIR STD (B.G.H)	E2–E12	S01–S05 M1–M10 U1–U10 S21–S41	E21–E69
	CHINA (D)	C1–C12	Z1–Z35	C13–C57
	EAST EU (D.K.K1)	R1–R12	44–470 MHz	E21–E69
I	HONG KONG, UK (I)	—		21–69
M	USA (NTSC)	2–13	5A A-5–FFF	14–79
	JAPAN (NTSC)	1–12	C13–C63	13–62

Setting the Remote Controller for Operation of your TV

You can operate the TVs of the manufacturers listed below with the remote controller after setting it.


2
1,3
Set the VCR/TV switch to TV to use the ∨ ∧ and the numeric buttons.

1	Panasonic/National
2	Panasonic/National
3	Panasonic/National
4	Panasonic/National
5	SONY
6	TOSHIBA
7	JVC
8	HITACHI
9	MITSUBISHI
10	MITSUBISHI
11	SHARP
12	PHILIPS, SAMSUNG
13	NEC
14	SANYO
15	GOLDSTAR
16	GOLDSTAR
17	SAMSUNG
18	SAMSUNG
19	SANYO

Preparations

- Turn on the TV.
- Install the batteries in the remote controller.

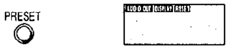
Operations **Display Symbols**

1 Keep **PRESET** pressed for more than 2 seconds.

2 Press **OFF** several times.

- When the number matches the manufacturer of your TV, the TV's power is turned off.

3 Press **PRESET.**



- The remote controller display changes as shown.

How to change the number
Each time the "+" side of **OFF** is pressed, the number is counted up by one as follows:
→1→2→3...19—

When the "–" side is pressed, the number is counted down by one in the reverse order to that indicated above.

When the TV manufacturer is Panasonic/National, MITSUBISHI, SANYO, GOLDSTAR or SAMSUNG:
If, after the settings, none of the functions except for the one which turns off the power are operational, repeat steps **1–3**, and perform the settings again using a different manufacturer number.

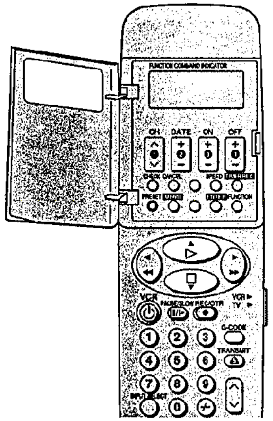
Notes:

- Some TV models cannot be operated using this remote controller.
- Set **VCR/TV** switch to **TV**, otherwise you cannot select the programme position of the TV using ∨ ∧ and the **numeric buttons** of this remote controller.

Language Setting of the On Screen Display

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

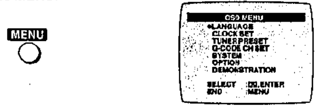


To Select the Desired Language

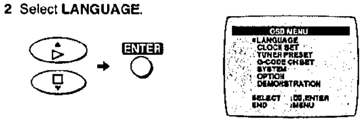
Select one of the two languages displayed: English and Russian.

On Screen Display

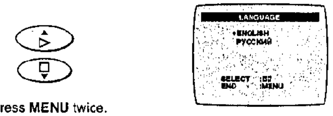
1. Press **MENU.**


MENU
OSD MENU
•LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▽▢,ENTER
END :MENU

2 Select **LANGUAGE.**


ENTER
OSD MENU
•LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▽▢,ENTER
END :MENU

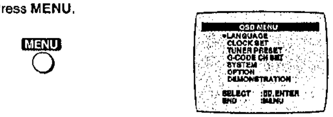
3 Select the desired language.


LANGUAGE
•ENGLISH
РУССКИЙ
SELECT :▽▢
END :MENU

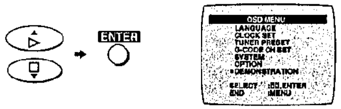
4 Press **MENU** twice.

To Demonstrate the OSD Menu

1 Press **MENU.**


MENU
OSD MENU
•LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▽▢,ENTER
END :MENU

2 Select **DEMONSTRATION.**


ENTER
OSD MENU
LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
•DEMONSTRATION
SELECT :▽▢,ENTER
END :MENU

- During the demonstration mode, all the on screen displays are displayed one after the other at about five second intervals.

3 Press **MENU** to stop the demonstration.

Note:
The menu screen has a blue background. However, if there is no signal input while A1 or A2 is selected, the menu screen may change to black and white when **MENU** is pressed. This does not indicate a malfunction. If it happens, either input a signal or select another programme position.

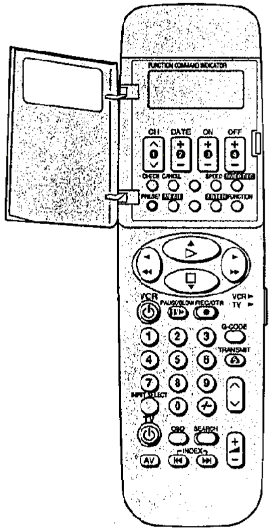
Setting the Clock of your VCR

The built-in digital clock is used to activate the timer for automatic recording and must be set to the correct time. It employs the 24-hour system.

Example:
Date; 16 October, 1999
Time; 20:15

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.


FUNCTION COMMAND INDICATOR
CH
DATE
ON
OFF
CHECK CANCEL
SPEED
PROG/CHECK
PRESET
ENTER
FUNCTION
VCR
PAUSE/SLOW
REC/OTR
VCR▸
TV ▸
G-CODE
TRANSMIT
INPUT SELECT
OSD
SEARCH
INDEX
AV

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

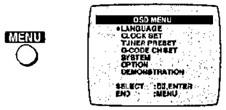
Example:
Resetting the clock to 12:00.00

1 Select **CLOCK SET** from the OSD menu and press **ENTER**.

2 When the current clock display on the VCR is between 11:58.00 and 12:01.59, press **MENU** as soon as you hear the 12:00.00 signal. This resets the time to 12:00.00.

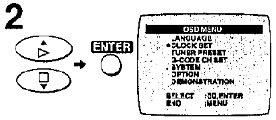
Operations **On Screen Display**

1


MENU
OSD MENU
•LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▢▢,ENTER
END :MENU

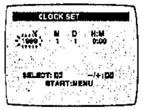
Press **MENU**.

2

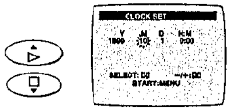

ENTER
OSD MENU
LANGUAGE
•CLOCK SET
TUNER PRESET
G-CODE CH SET
SYSTEM
OPTION
DEMONSTRATION
SELECT :▢▢,ENTER
END :MENU

Select **CLOCK SET**.

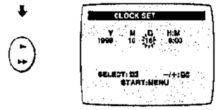
3 Set each item by pressing ▲ or ▼ and ▶. Press ◀ to return to the previous item.


CLOCK SET
Y M D H:M
1999 1 1 0:00
SELECT: ▢▢ –/+:▢▢
START:MENU

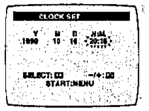
Set **Year** to "1999".


CLOCK SET
Y M D H:M
1999 10 1 0:00
SELECT: ▢▢ –/+:▢▢
START:MENU

Set **Month** to "10".


CLOCK SET
Y M D H:M
1999 10 16 0:00
SELECT: ▢▢ –/+:▢▢
START:MENU

Set **Date** to "16".

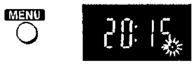

CLOCK SET
Y M D H:M
1999 10 16 20:15
SELECT: ▢▢ –/+:▢▢
START:MENU

Set **Time** to "20:15".

- When it is kept pressed, the indication changes in 30-minute steps.
- There is no need to press ▶.

4

Display Symbol

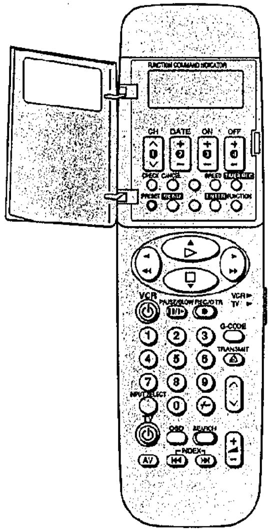


Press **MENU**.

- The clock starts.

Note:
The clock operates for at least 60 minutes on its backup system in the event of a power failure.

Settings Using the On Screen Display


FUNCTION COMMAND INDICATOR
CH
DATE
ON
OFF
CHECK CANCEL
SPEED
PRESET
ENTER
FUNCTION
VCR
PAUSE/SLOW
REC/OTR
VCR▸
TV ▸
G-CODE
TRANSMIT
INPUT SELECT
OSD
SEARCH
INDEX
AV

Preparations

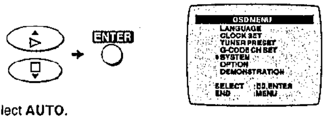
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

To set the Colour TV System

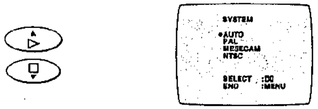
1 Press **MENU**.

2 Select **SYSTEM**.

On Screen Display


ENTER
OSDMENU
LANGUAGE
CLOCK SET
TUNER PRESET
G-CODE CH SET
•SYSTEM
OPTION
DEMONSTRATION
SELECT :▢▢,ENTER
END :MENU

3 Select **AUTO**.


SYSTEM
•AUTO
PAL
MESECAM
NTSC
SELECT :▢▢
END :MENU

- The VCR automatically distinguishes between PAL, SECAM/MESECAM and NTSC signals. If the picture lacks colour during AV external recording or playback, set to **PAL**, **MESECAM** or **NTSC**.

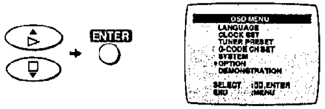
4 Press **MENU** twice to make the on screen display disappear.

On Screen Display

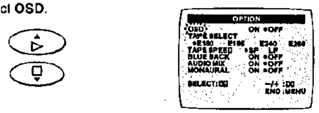
1 Press **MENU**.

2 Select **OPTION**.

On Screen Display



3 Select **OSD**.



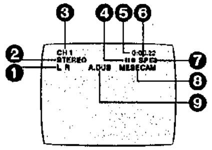
4 Select **ON** or **OFF**.

ON: The on screen display will appear on the TV screen.
OFF: The on screen display will not appear.

5 Press **MENU** twice to make the on screen display disappear.

- An alternative method is to press **OSD**.

To use the on screen display:



❶ **Audio Output Mode Indicators**
The Left (L) and Right (R) Indicators show which sound mode is selected with **AUDIO OUT**.

Stereo: Both the L and R Indicators appear.
Left: The L Indicator appears.
Right: The R Indicator appears.
Normal: Neither the L nor R Indicator appears.

❷ **STEREO, M1 and M2 Indicator**
When receiving a TV programme with the Stereo, Bilingual or NICAM sound system the type of sound system in which it is broadcast is automatically indicated.

STEREO: When receiving a Stereo/NICAM stereo broadcast.
M1 M2: When receiving a Bilingual/NICAM dual-sound broadcast.
M1: When receiving a NICAM monaural broadcast.

❸ **Programme position**

❹ **Tape running display**

Stop, Eject	
Rewind, Review	◀◀
Fast forward, Cue	▶▶
Playback	▶
Still playback	II
Recording, Insert editing, Audio dubbing	●
Recording pause, Insert editing pause, Audio dubbing pause	II●
Slow playback	I▶
Repeat playback	R▶

❺ **Present time/Tape counter/Remaining tape time/OTR indication/Dew/Index search**

Information	Display
Present time	17:24
Tape counter	−2:35.47
Remaining tape time	REMAIN 2:34
OTR indication	OTR 60
Dew	DEW
Index search	S 01

❻ **Tape speed indicator (SP/LP/EP)**

❼ **Cassette-in indicator**

❽ **Colour system Indicator**
The colour TV system selected appears during normal playback or when A1 or A2 is selected. (See page 19.)
- When **AUTO** is selected on **SYSTEM** on screen display, no indicator appear.

When **MESECAM** of **TUNER PRESET** is **ON** (see page 12), **MESECAM** indicator appears.

❾ **Edit mode**
When edit mode (Insert Editing, AV Insert Editing, Audio Dubbing) is set, the On Screen Display appears.

INSERT: Insert Editing
AV INSERT: AV Insert Editing
A.DUB: Audio Dubbing

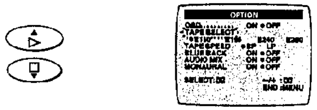
Notes:
- The on screen display may be disturbed or disappear during special playback.
- The on screen display does not appear when the **OSD** is set to OFF. Set the **OSD** to OFF for dubbing.
- The **OSD** is set to OFF when the VCR is purchased. The setting returns to OFF when the VCR is turned off.

To Select the Corresponding Video Cassette Tape Length to Display the Approximate Remaining Tape Time

Follow steps **1** to **2** on page 20.

3 Select **TAPE SELECT**.

On Screen Display



4 Select the corresponding video cassette tape length.

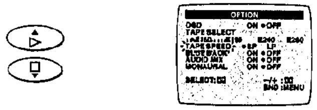
E180: For E30, -60, -90, -120, -150 and -180 tapes.
E195: For E195 tape.
E240: For E240 tape.
E260: For E260 and -300 tapes.

5 Press **MENU** twice to make the on screen display disappear.

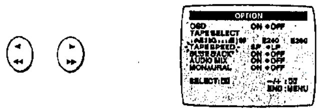
To Select the Desired Tape Speed for Manual Recording

Follow steps **1** to **2** on page 20.

3 Select **TAPE SPEED**.



4 Select the desired tape speed.



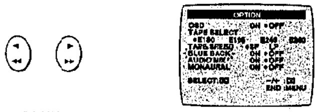
5 Press **MENU** twice to make the on screen display disappear.

For the Blue Background Function

When **BLUE BACK** is **ON**, the screen will always have a blue background when no signal is received or the received signal is very weak.
Follow steps **1** to **2** on page 20.

3 Select **BLUE BACK**.

4 Select **ON** or **OFF**.



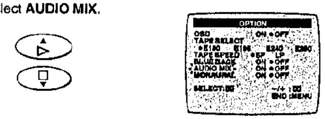
- When **BLUE BACK** is **OFF**, the blue background function is deactivated.
- It is not possible to record the blue picture of the blue background function.

5 Press **MENU** twice to make the on screen display disappear.

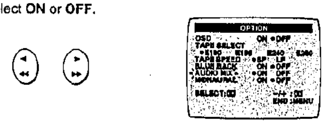
Audio Mix

Follow steps **1** to **2** on page 20.

3 Select **AUDIO MIX**.



4 Select **ON** or **OFF**.



ON: Both sound tracks (the Hi-Fi sound track and the normal sound track) are played back mixed together. Use this setting when playing back a cassette tape which has been insert edited or audio dubbed.
OFF: Normally set at this position to reproduce the better sound available from the Hi-Fi track.

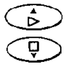
5 Press **MENU** twice to make the on screen display disappear.

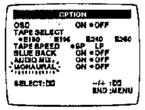
To select the Sound Mode

Follow steps 1 to 2 on page 20.

3 Select **MONAURAL**.

On Screen Display

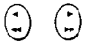


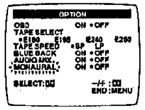


```
OPTION
OSD                  ON •OFF
TAPE SELECT
  •E180    E195    E240    E260
TAPE SPEED     •SP    LP
BLUE BACK           ON •OFF
AUDIO MIX.          ON •OFF
MONAURAL            ON •OFF

SELECT:              –/+ :
                     END :MENU
```

4 Select **ON** or **OFF**.





```
OPTION
OSD                  ON •OFF
TAPE SELECT
  •E180    E195    E240    E260
TAPE SPEED     •SP    LP
BLUE BACK           ON •OFF
AUDIO MIX.          ON •OFF
MONAURAL            ON •OFF

SELECT:              –/+ :
                     END :MENU
```

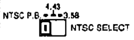
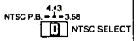
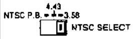
- Select **ON** to record the normal sound during a NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.

5 Press **MENU** twice to make the on screen display disappear.

Setting the System Switch

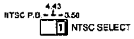
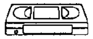
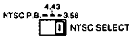
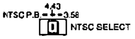
Setting the System Switch for Playback

This VCR can play back tapes recorded in the video system of PAL, MESECAM or NTSC. Set the System switch according to the video system of a tape you want to play back.
When you play back a tape, make sure that the system switch is set properly.

Video system of a playback tape	System Switch		Output Colour	
	SYSTEM*1	NTSC SELECT	Video Output	Aerial Output
PAL	•AUTO PAL MESECAM NTSC	—	PAL	PAL B.G/I/D.K 5.5 6.0 6.5
MESECAM	•AUTO PAL MESECAM NTSC	—	SECAM	SECAM B.G/I/D.K 5.5 6.0 6.5
NTSC	•AUTO PAL MESECAM NTSC		Quasi-PAL	Quasi-PAL B.G/I/D.K 5.5 6.0 6.5
	•AUTO PAL MESECAM NTSC		NTSC 4.43	NTSC 4.43 B.G/I/D.K 5.5 6.0 6.5
	•AUTO PAL MESECAM NTSC		NTSC 3.58	NTSC 3.58 M 4.5

Setting the System Switch for Recording

The System switch should be set also when you make a TV programme recording or AV external recording.
When you make a recording or a timer programme recording, make sure that the system switch is set properly.

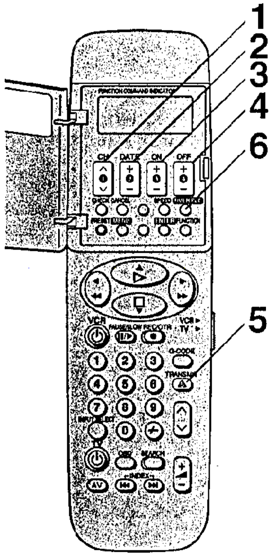
System		System Switch			Recorded Tape
		TUNER PRESET*2 (SYSTEM)	SYSTEM*1	NTSC SELECT	
BROADCASTS	PAL B/G PAL I PAL D	•BGDK I M or BGDK •I M	•AUTO PAL MESECAM NTSC	—	PAL
	*3 SECAM D/K SECAM B/G	•BGDK I M	•AUTO PAL MESECAM NTSC	—	MESECAM
	NTSC M	BGDK I •M	•AUTO PAL MESECAM NTSC		NTSC
LINE IN	PAL	—	•AUTO PAL MESECAM NTSC	—	PAL 
	NTSC 3.58	—	•AUTO PAL MESECAM NTSC		NTSC
	NTSC 4.43	—	•AUTO PAL MESECAM NTSC		

[*1] OSD (On Screen Display) setting (See page 19.)
If the picture lacks colour when **AUTO** is set, set to **PAL, MESECAM** or **NTSC.**

[*2] OSD (On Screen Display) setting (See page 12.)

[*3] If the picture lacks colour when **MESECAM** of **TUNER PRESET** is **AUTO**, set to **ON**. (See page 12.)

Timer Recording



Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including weekly and daily programmes.

For Example:

Programme position (channel); 2
Date; 27th October
Starting time; 20:02
Ending time; 21:30
(Present date; 16 October)

Preparations

- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.
- Make sure that the System switch is set properly. See page 23.

Operations **Display Symbols**

1 Set Programme position (channel) "2".

2 Set Date "27".

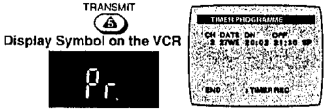
- For weekly and daily recording, see next page.

3 Set Starting time "20:02".

- When it is kept pressed, the indication changes in 30-minute steps.

4 Set Ending time "21:30".

5 Press **TRANSMIT**. **On Screen Display**



- The VCR will be in the timer recording standby mode after pressing **TRANSMIT** immediately.

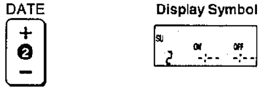
6 To activate timer recording, press **TIMER REC**.

- The "PROGRAMME IS COMPLETE." message appears.
- On Screen Display will disappear after about 1 minute if **TIMER REC** is not pressed.
- The display symbol "Pr." on the VCR will disappear after about 12 seconds if **TIMER REC** is not pressed.
- To release from the timer recording standby mode after On Screen Display disappear, press **TIMER REC**.

7 Close the door of the remote controller.

Weekly Timer Recording

In step **2**, select the desired day by pressing **DATE –**. For example, SU (Sunday)



(SU=Sunday, MO=Monday, TU=Tuesday, WE=Wednesday, TH=Thursday, FR=Friday, SA=Saturday)

Daily Timer Recording

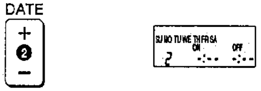
For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday (MO–FR)

Ⓑ Daily recording from Monday to Saturday (MO–SA)

Ⓒ Daily recording from Sunday to Saturday (SU–SA)

In step **2**, select the desired days by pressing **DATE –**. For example, Ⓒ



Timer Recording from an External Signal Source

If timer recording is performed by a unit connected to the audio/video input sockets, select the A1 or A2 indicator in step 1 for the programme position.

A1: Through the AV1 (AUDIO IN/VIDEO IN) sockets.

A2: Through the AV2 (AUDIO IN/VIDEO IN) sockets on front panel.

Setting other Programmes in Succession

Repeat steps **1–6**.

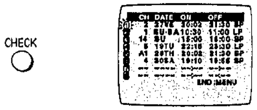
Selecting the Desired Tape Speed

Press **SPEED** to make the selection in any of steps **2–4**.

Checking a Timer Programme

- The VCR must be turned on, or the timer recording indicator "⊡" lit.
- Confirm that the TV is on and the VCR viewing channel is selected.

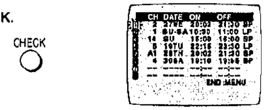
1 Press **CHECK**. **On Screen Display**



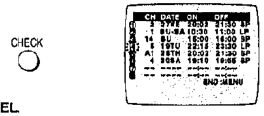
Cancelling a Timer Programme

- The VCR must be turned on, or in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

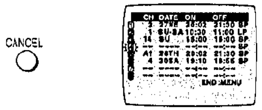
1 Press **CHECK**.



2 Press **CHECK** repeatedly until the desired timer programme number flashes on and off.



3 Press **CANCEL**.



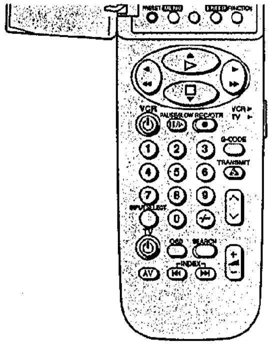
Note:
If timer recording is not completed (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 A.M. two days later.
However, if, at that time, the timer recording function is activated, the programmed timer recording data will be cancelled at 4 A.M. the next day.

Search Functions

Searching Timer-Recorded Programmes (Programme List Search)

Searching Using the Programme List Search Function
When timer programmes are recorded by this VCR, the VCR stores the programming details, and the programmes are selected and searched by the programme list search function.

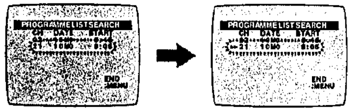
Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Release the standby status for timer programme recording.



Displaying the PROGRAMME LIST SEARCH Screen

Press **SEARCH**.

On Screen Display



(During a search)

- The details of the timer-recorded programmes on this video cassette are displayed on the PROGRAMME LIST SEARCH screen in the sequence in which the programmes were recorded.
- When no further operations are undertaken for about 3 or more seconds, the search for the last timer-recorded programme is commenced.
- Upon completion of the search, playback starts from the searched point on the tape.

Searching other programmes

Press **SEARCH** several times to select the programme which is to be searched.

- When **SEARCH** is pressed once, the timer-recorded programme which was recorded last is selected. Each time **SEARCH** is subsequently pressed, the programme before (or above on the list shown on the screen) is selected.
- If **SEARCH** is pressed again when the top programme is selected, the bottom programme will be selected.
- Another programme can be selected by pressing **SEARCH** even after a search has been commenced.

To stop the search at any time

Press **MENU** and clear the PROGRAMME LIST SEARCH screen.

Notes:
- This function does not work during timer recording standby mode.
- This function works only for video cassettes containing timer-recorded programmes.
- Since this function works only for the currently loaded video cassette, **all the programming list details will be cleared when the video cassette is ejected or replaced with another one.** At times like this, use the VHS index search system or the intro-jet scan function. (See page 33.)
- The programme list search function may not work properly when recorded programmes run for 15 minutes or less.
- Ensure that **TAPE SELECT** for **OPTION** on the **OSD MENU** is set correctly, as otherwise, this function will not operate correctly.
- When **SEARCH** is pressed during playback, playback is stopped immediately, and the PROGRAMME LIST SEARCH screen appears.
- Up to 8 programmes can be displayed on the PROGRAMME LIST SEARCH screen. If the timer is used to record more than 9 programmes, the oldest programme will be deleted on the PROGRAMME LIST SEARCH screen, and a new timer-recorded programme will be entered and displayed.
- This function may not work properly depending on the tape position when you press **SEARCH**.
- This function may not work properly when for example, you try to record over a programme with another programme that is timer-recorded on the same portion of the tape.

To Find the Beginning of Each Recording (VHS Index Search System)

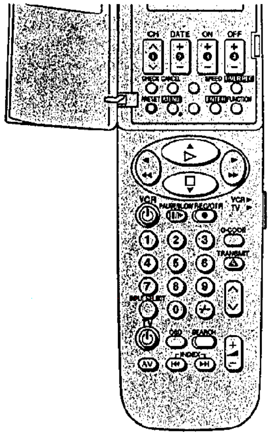
Example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX ►►I** twice.
(This operation is performed while the VCR is in the stop mode or normal playback mode.)

Display Symbol

- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◄◄**.
- Up to 20 index signals can be searched for in both directions.
- When the opposite **INDEX** button is pressed, the number will decrease to 1.
- The figure on the display decreases by 1 each time an index signal is located.

Recording Index Signals
Index signals are recorded in the following cases.
- When a recording is started by pressing **REC/OTR**.
- When timer recording is activated.

Note:
The index search function can only work correctly if the index signals are spaced at least 5 minutes.



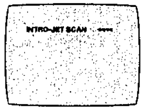
Searching while checking the video cassette contents (Intro-Jet Scan)

The approximate beginnings of each recorded programme are played in succession at the high speed so that the programme to be viewed can be located easily.

Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Load the pre-recorded video cassette.

1 Press **SEARCH**.
(This operation is performed while the VCR is OFF or while the VCR is in the stop mode or normal playback mode with the VCR ON.)

On Screen Display



- The tape is rewound to the start, and played for about 10 seconds at the high speed. It is then fast forwarded, the VISS (VHS Index Search System) signals are searched in succession, and each time the signals are found, the tape is played for about 10 seconds at the high speed.

2 When the programme to be viewed is reached, press **PLAY**.

- Normal playback now commences.

To stop the operation at any time
Press **STOP**.

Notes:
- This function may not work properly when recorded programmes run for 15 minutes or less.
- When the timer recording is completed and the video cassette is neither ejected nor replaced with another one and then **SEARCH** is pressed, the intro-jet scan function will not work, and the programme list search function will work instead.

Editing

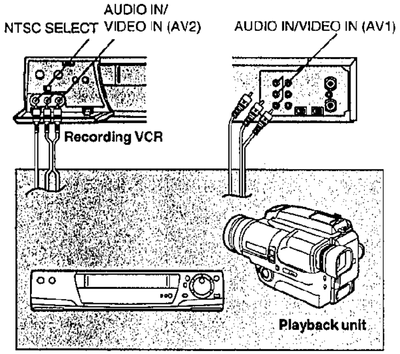
Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

A new scene can be added to the end of previous one.

Preparations

- Connect a movie camera or another VCR to this VCR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through the AV1 (AUDIO IN/VIDEO IN) sockets.
  A2: Through the AV2 (AUDIO IN/VIDEO IN) sockets on front panel.
- Make sure that System switch is set properly. See page 23.


NTSC SELECT
AUDIO IN/ VIDEO IN (AV2)
AUDIO IN/VIDEO IN (AV1)
Recording VCR
Playback unit

Operations

1 Press **PAUSE/STILL** on the recording VCR.

2 Search for the end of the previous recording.

3 Press **REC/OTR** to switch the VCR from the pause mode to the recording standby mode.

4 Start the new recording by pressing **PAUSE/STILL (PAUSE/SLOW)** again.

5 Press **STOP** to stop recording.

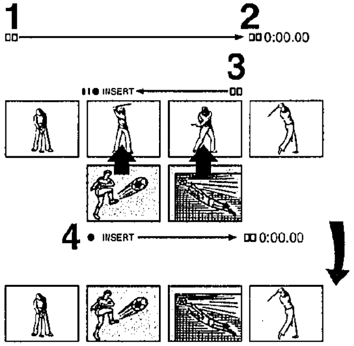
Note:
The new sound will be recorded on both the normal and Hi-F sound tracks, only monaural sound recording is possible on the normal sound tracks.

Insert Editing

This is used to substitute one scene for another providing.

Preparations

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through the AV1 (AUDIO IN/VIDEO IN) sockets.
  A2: Through the AV2 (AUDIO IN/VIDEO IN) sockets on front panel.
- Make sure that System switch is set properly. See page 23.


1
2
0:00.00
3
INSERT
4
INSERT
0:00.00

Operations

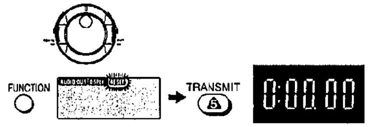
Display Symbols

1

PAUSE/STILL

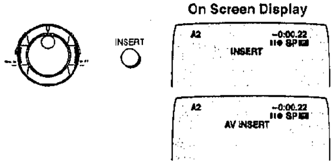
Press **PAUSE/STILL** on the recording VCR.

2


FUNCTION
TRANSMIT
0:00.00

Search for the Edit out (ending) point, and press **FUNCTION** repeatedly until **RESET** flashes on the remote controller display and then press **TRANSMIT** to set the counter to 0:00.00.

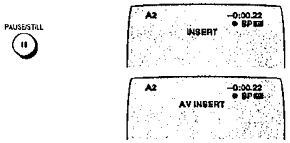
3


INSERT
On Screen Display
A2
-0:00.22
SP
INSERT
A2
-0:00.22
SP
AV INSERT

Search for the Edit in (starting) point, and press **INSERT**.

- If you want to replace the sound on the "normal" audio track, press **AUDIO DUB**, too. (AV Insert Editing)

4


PAUSE/STILL
A2
-0:00.22
SP
INSERT
A2
-0:00.22
SP
AV INSERT

Start insert editing by pressing **PAUSE/STILL (PAUSE/SLOW)**.

- The insert editing will finish when the counter reaches 0:00.00.

Note:
Insert Editing cannot be used on blank sections of a tape. In this case use Assembly Editing first.

The new sound will be recorded on the Hi-Fi sound track. If AUDIO DUB selected, the new sound will also be recorded on the normal sound track.

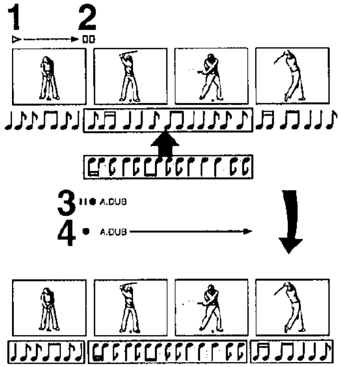
Only monaural sound recording is possible on the normal sound tracks.

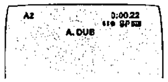
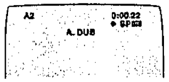
Audio Dubbing

The audio dubbing is made on the normal audio track and erases the original sound on this track. On Hi-Fi audio tracks, however, the original sound is maintained.

Preparations

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through the AV1 (AUDIO IN) sockets.
  A2: Through the AV2 (AUDIO IN) sockets on front panel.

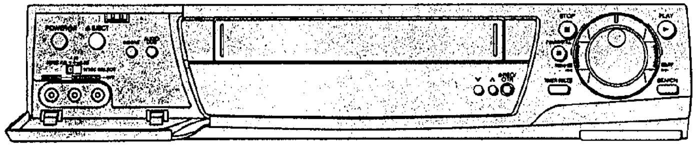


Operations	Display Symbols	
1 PLAY		Search for the starting point for audio dubbing.
2 PAUSE/STILL		Press **PAUSE/STILL (PAUSE/SLOW)** at the starting point.
3 AUDIO DUB	**On Screen Display** 	Set for audio dubbing by pressing **AUDIO DUB**. ●On some TVs, the screen image may become unstable or begin to scroll at this point. However, this is not an indication of a malfunction.
4 PAUSE/STILL		Start recording the new sound by pressing **PAUSE/STILL (PAUSE/SLOW)**. ●Stop recording by pressing **STOP**.

Note:
The new sound will be recorded on the normal sound track of the tape, and the original sound will remain on the Hi-Fi sound track. Only monaural sound recording is possible on the normal sound track.

To hear the new sound, select the normal sound track by pressing **AUDIO OUT**.
To hear the new sound and original sound mixed together, set **AUDIO MIX** to **ON**. (See page 21.)

Other Functions



NTSC Playback

Tapes recorded in the NTSC system can be played back with this VCR via a PAL system TV.

- Set **NTSC SELECT** according to the colour TV system of the TV. See page 23.

NTSC P.B.:	For TVs that can receive PAL signals.
4.43:	For TVs that can receive NTSC 4.43 signals.
3.58:	For TVs that can receive NTSC 3.58 signals.

Note:
On some TVs, the playback picture may roll up or down; adjust this using the V-HOLD control on the TV. TVs not equipped with a V-HOLD control cannot correct this condition. The playback picture may shrink vertically, and black bars may appear both on the top and bottom of the screen. This does not indicate a malfunction.

- During cue, review, still or slow playback, the picture may not be in colour. Alternatively, the top of the TV screen may be distorted.

Note for only NTSC Playback on PAL system TV
This function is designed to allow only the playback of tapes recorded by NTSC signals on a PAL system TV. The NTSC signal is not completely converted to a PAL signal. For this reason, images played back by this function cannot be recorded correctly on other VCRs.

Other Automatic Functions

Automatic Playback

When a video cassette without an erasure prevention tab is inserted, the VCR starts playback automatically.

VCR-off Playback

When the VCR is off, an inserted video cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

- During OTR, this function will not work.

Automatic Switching Off and Ejection

When the VCR is switched off, an inserted video cassette can be ejected by simply pressing **EJECT**. The VCR will eject the video cassette and automatically turn itself off again.

Hi-Fi Audio System

NICAM is a 2 channel sound broadcast system to provide either a high quality stereo sound track or 2 independent MONO sound tracks, M1 and M2.
NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **AUDIO OUT** during playback.

- The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.
- When a stereo, bilingual or NICAM programme is being received, the indicators appear to inform you of the type of broadcast. (See page 20.)
- To record the regular sound (ordinary normal sound) on the FM audio tracks when a Stereo, Bilingual or NICAM programme is received, select **MONAURAL ON**.
  See page 22.

Important Note for the NICAM System
When this VCR tuner is switched on, it will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with **AUDIO OUT** or **MONAURAL** setting. This will only apply until NICAM transmissions are fully operational.
At this time the NICAM signal is transmitted on stereo channels only, since the M1 and M2 formats are not yet available. Even if the sound track is in MONO, the stereo indicator will appear.

MEMO

ГЛАВА 1
ОБЩЕЕ ОПИСАНИЕ

1-1. ИНФОРМАЦИЯ О ТЕХНИЧЕСКОМ ОБСЛУЖИВАНИИ.

1-1-1. ПРОВЕРКА ГЛАВНОГО ПЕЧАТНОГО УЗЛА

При техническом обслуживании ГЛАВНОГО ПЕЧАТНОГО УЗЛА снимите его и механизм с рамы и переверните их, затем соедините кабель-удлинитель (VFK2744) между разъемом СИЛОВОГО ПЕЧАТНОГО УЗЛА (P1103) и разъемом ГЛАВНОГО ПЕЧАТНОГО УЗЛА (P1001), как указано на Рис. S1.

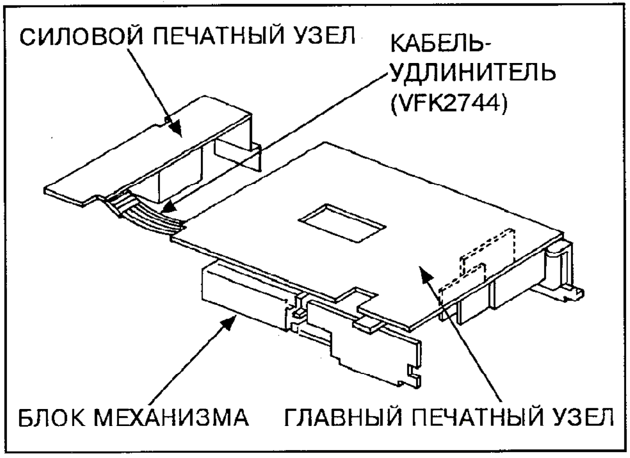

СИЛОВОЙ ПЕЧАТНЫЙ УЗЕЛ
КАБЕЛЬ-УДЛИНИТЕЛЬ (VFK2744)
БЛОК МЕХАНИЗМА
ГЛАВНЫЙ ПЕЧАТНЫЙ УЗЕЛ

Рис. S1

1-1-2. ЗАМЕНА УЗЛА ЦИЛИНДРА

А. ЗАМЕНА УЗЛА ЦИЛИНДРА

Снимите 3 винта (А) с УЗЛА ЦИЛИНДРА с помощью магнетизированной отвертки.

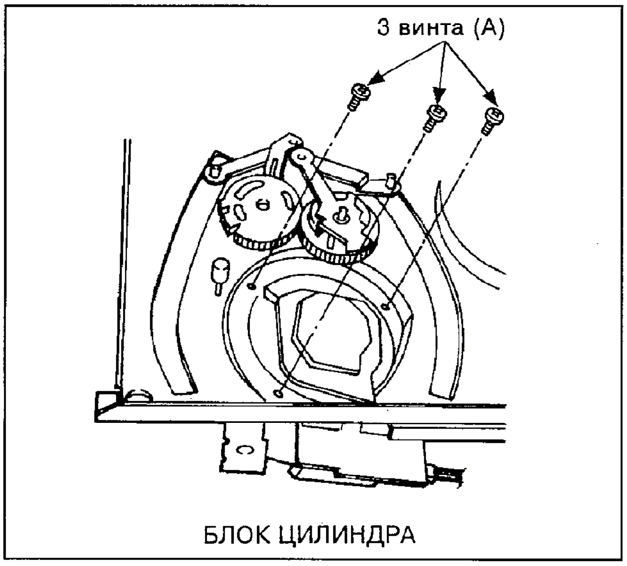

3 винта (А)
БЛОК ЦИЛИНДРА

Рис. S2

Б. РАЗБОРКА ВЕРХНЕГО ЦИЛИНДРА (ТОЛЬКО ДЛЯ NV-HD670BD)

1) Снимите верхнюю панель.
2) Снимите винт (В) и плиту заземления.
3) Передвиньте стопор влево и освободите блокировку цилиндра.
4) Вращяя верхний цилиндр поочередно по часовой стрелке и против часовой стрелки, снимите верхний цилиндр.

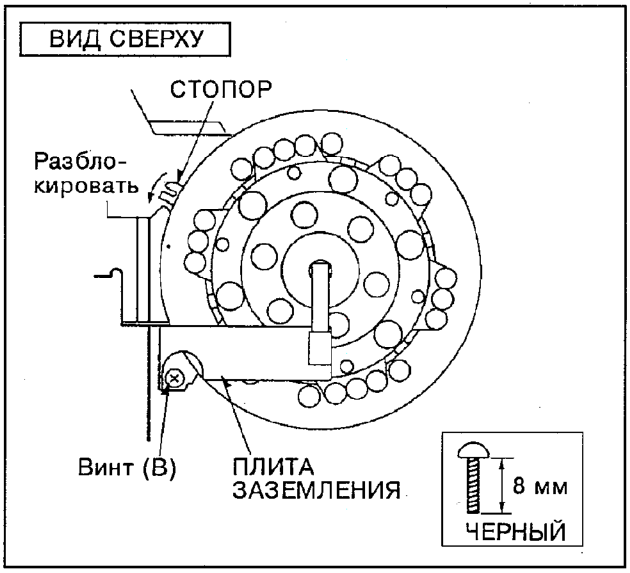

ВИД СВЕРХУ
СТОПОР
Разбло-кировать
Винт (В)
ПЛИТА ЗАЗЕМЛЕНИЯ
8 мм
ЧЕРНЫЙ

Рис. S3

В. СБОРКА ВЕРХНЕГО ЦИЛИНДРА (ТОЛЬКО ДЛЯ NV-HD670BD)

1) При установке верхнего цилиндра его стопор должен быть освобожден.
   Вращая верхний цилиндр поочередно по часовой стрелке и против часовой стрелки, и нажимая, установите его полностью.
2) Передвиньте стопор вправо и зафиксируйте верхний цилиндр после его установки.

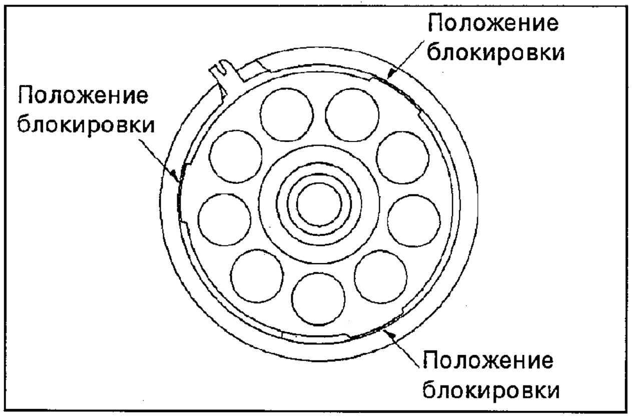

Положение блокировки
Положение блокировки
Положение блокировки

Рис. S4

Г. РАЗБОРКА ВЕРХНЕГО ЦИЛИНДРА (ТОЛЬКО ДЛЯ NV-SD570AM/EU)

1. Снимите 2 винта (A).
2. Снимите узел статора цилиндра.
3. Снимите 2 винта (B).
4. Снимите узел ротора цилиндра.
5. Ослабьте винт с шестигранной головкой (C) и снимите стопор цилиндра. (Используйте 1,5 мм торцевой гаечный ключ.)
6. Снимите верхний цилиндр.

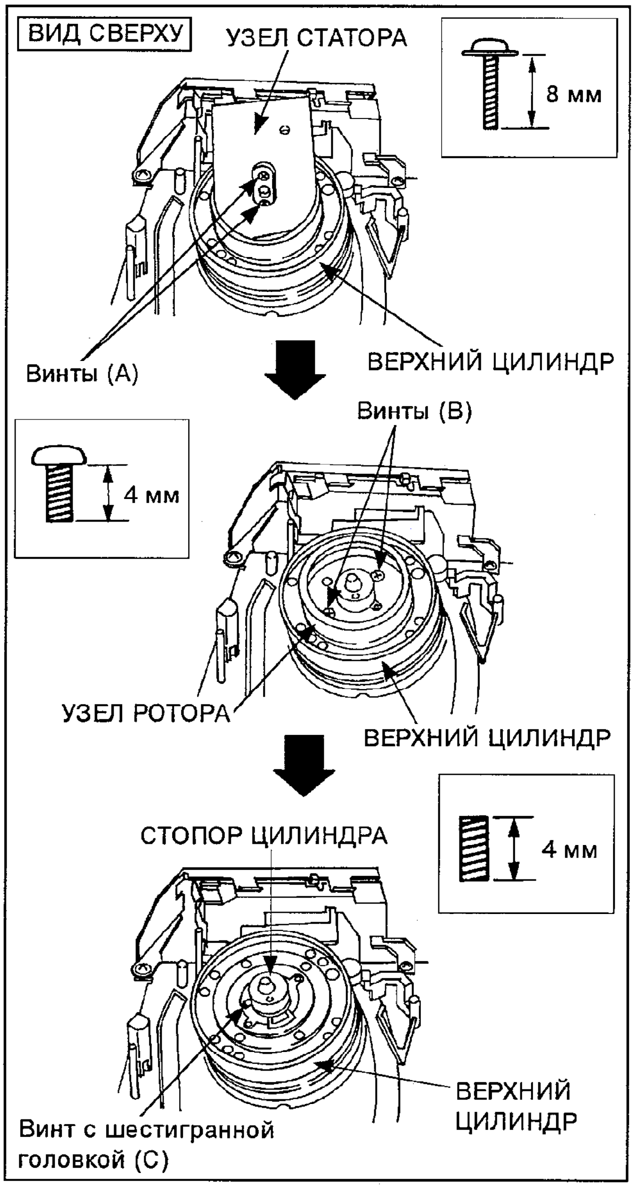

ВИД СВЕРХУ
УЗЕЛ СТАТОРА
8 мм
Винты (A)
ВЕРХНИЙ ЦИЛИНДР
Винты (B)
4 мм
УЗЕЛ РОТОРА
ВЕРХНИЙ ЦИЛИНДР
СТОПОР ЦИЛИНДРА
4 мм
Винт с шестигранной головкой (C)
ВЕРХНИЙ ЦИЛИНДР

Рис. S5

Е. СБОРКА ВЕРХНЕГО ЦИЛИНДРА

Повторую сборку выполните в обратной последовательности разборки.

1) Установите стопор цилиндра так, чтобы 2 отверстия на стопоре цилиндра находились под прямым углом печатному узлу усилителя головки.
2) Затяните винт с шестигранной головкой (C), нажимая стопор цилиндра винз. (Используйте 1,5 мм торцевой гаечный ключ.)

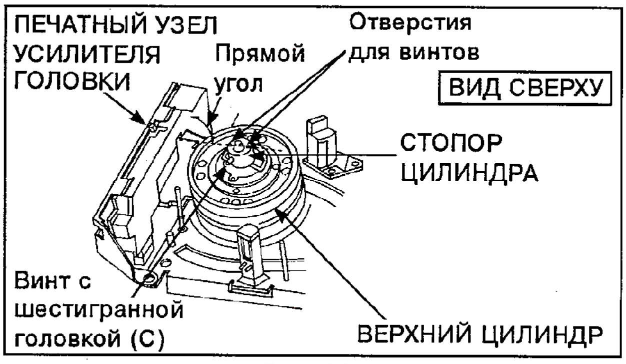

ПЕЧАТНЫЙ УЗЕЛ УСИЛИТЕЛЯ ГОЛОВКИ
Прямой угол
Отверстия для винтов
ВИД СВЕРХУ
СТОПОР ЦИЛИНДРА
Винт с шестигранной головкой (C)
ВЕРХНИЙ ЦИЛИНДР

Рис. S6

3) Установите узел ротора цилиндра так, чтобы его внутреннее отверстиесовпало с маленьким выступом (D), расположенным на верхнем цилиндре.
4) Затяните 2 винта (B).

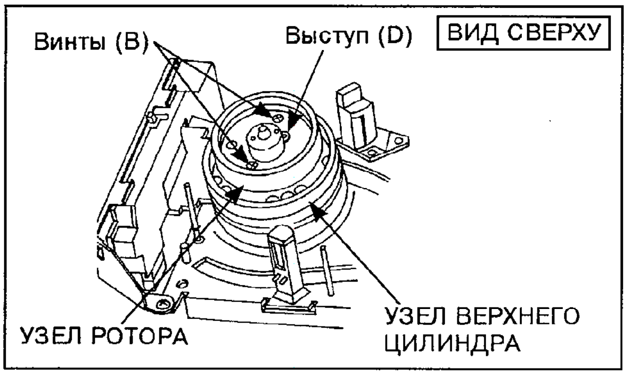

Винты (B)
Выступ (D)
ВИД СВЕРХУ
УЗЕЛ РОТОРА
УЗЕЛ ВЕРХНЕГО ЦИЛИНДРА

Рис. S7

5) Установите узел статора цилиндра так, чтобы задняя сторона печатного узла статора цилиндра находилась параллельно печатному узлу усилителя головки.
6) Затяните 2 винта (A).

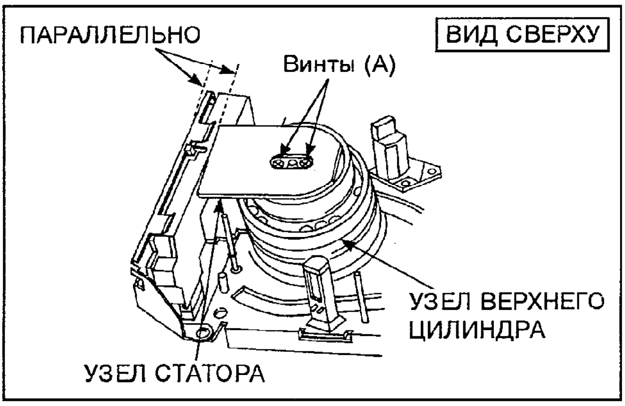

ПАРАЛЛЕЛЬНО
ВИД СВЕРХУ
Винты (A)
УЗЕЛ ВЕРХНЕГО ЦИЛИНДРА
УЗЕЛ СТАТОРА

Рис. S8

7) Проверьте регулировку переключателя импульсного генератора с помощью измерительной ленты (NTSC: VFM8080HQFP, PAL: VFJ8125H3F) и отрегулируйте при необходимости.

1-1-3. ИНИЦИАЛИЗАЦИЯ ИНТЕГРАЛЬНОЙ СХЕМЫ ПАМЯТИ КАНАЛОВ

При замене интегральной схемы памяти каналов IC6007 (S-29255ADP:NV-SD570AM/EU), (S-29355ADP:NV-HD670BD) интегральная схема должна быть инициализирована.

Метод:
1) Нажмите кнопку CH UP/DOWN так, чтобы индикатор канала указал “3”.
2) Соедините проволочную перемычку дважды к TL7506 и TL7507.
3) Индикация канала меняется с “3” на “1”.

Примечание:
1) Это должно быть выполнено перед настройкой.
2) Не выключайте источник питания во время инициализации или в течение 1 секунды после инициализации.
3) Назначение “ИНИЦИАЛИЗАЦИИ” заключается в том, чтобы создать идентичность разных моделей и определить различность характеристик.

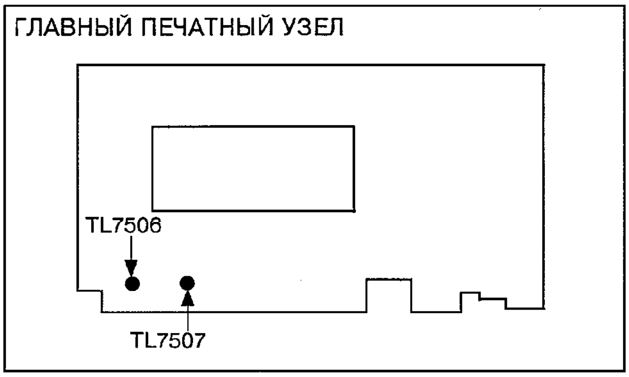


Рис. S9

1-2. ДИСПЛЕЙ САМОДИАГНИСТИКИ И ИНФОРМАЦИИ ПРИ ТЕХОБСЛУЖИВАНИЯ

См. Инструкцию по техобслуживанию для механического шасси Z.
(Номер заказа: VRD9612M129)
ПРИМЕЧАНИЕ: Включите дисплей информации техобслуживания.
Поверните челночное кольцо в сторону FF и нажмите кнопку EJECT.

1-3. ПРЕДОСТОРОЖНОСТИ ВО ВРЕМЯ АВТОМАТИЧЕСКОЙ НАСТРОЙКИ

Процедура
Автоматическая настройка выполняется в следующей последовательности.
1. Соедините кабель DIN-RF.
2. Соедините силовой провод перем. тока.
3. Включите видеомагнитофон.
   Автоматическая настройка начинается.
   Автоматическая настройка выполняет поиск телевизионных станций в диапазоне от ОВЧ мининум до УВЧ максимум и запоминает каждое настроенное положение программ. Другие программы пропускаются.
   Автоматическая настройка занимает 7 или более минут для завершения поиска.
   Не трогайте переключатели видеомагнитофона во время автоматической настройки.
   Автоматическая настройка останавливается на полпути, если видеомагнитофон используется или отсоединяется провод антены и/или силовой провод.
   В случае, если видеомагнитофон останавливается во время автоматической настройки, он должен быть возвращен в исходное положение и включен снова. См. следующий пункт 2.

Примечание
1. Если видеомагнитофон включен при отсоединенной антенне, то все каналы будут пропускаться. Поэтому плотно соедините антенну и затем выключите видеомагнитофон и снова включите для выполнения автоматической настройки.
2. **Если автоматическая настройка отменена на полпути, то автоматическая настройка не осуществляется даже, если Вы выключите и снова включите видеомагнитофон.**
   В данном случае, автоматическую настройку надо начать сначала в следующей последовательности.
   (1) **Нажмите кнопку EJECT и выньте видеокассету.**
   (2) **Держите одновременно нажатыми кнопки Λ и V (вверх/вниз) на видеомагнитофоне в течение 3 или более секунд при включенном видеомагнитофоне.**
   Изображение принимаемого канала на видеомагнитофоне исчезает на мгновение с экрана и изменится на канал 1.
   (3) **Выключите видеомагнитофон и затем включите его снова. Начинается автоматическая настройка.**

3. Если выключаете видеомагнитофон во время автоматической настройки, она останавливается на полпути.

   Видеомагнитофон должен быть возвращен в исходное положение и запущен снова в соответствии с пунктом 2 для выполнения автоматической настройки.
4. Если видеомагнитофон начинает воспроизведение во время автоматической настройки, то она останавливается на полпути.

   Видеомагнитофон должен быть возвращен в исходное положение и запущен снова в соответствии с пунктом 2 для выполнения автоматической настройки.
5. Чтобы аннулировать автоматическую настройку на полпути, нажмите POWER во время автоматической настройки (Видеомагнитофон выключается).
6. Когда видеомагнитофон перевозится в другой район или страну, необходимо повторно заложить в память телепрограммы.

1-4. СНЯТИЕ КАССЕТНОЙ ЛЕНТЫ

Существуют два способа снятия кассетной ленты.

1. Снятие принудительной разгрузкой
   1) Поверните челночное кольцо в сторону FF, затем нажмите кнопку EJECT и установите режим техобслуживания 7.
   2) Нажмите кнопку STOP для разгрузки механизма. (Устраните, если произошло запутывание ленты.)

      Индикация режима техобслуживания:

      7 ※ ※ ※ ※ (STOP) → 7 00 ※ ※ (EJECT)
2. Снятие ручной операцией главного кулачкового механизма
   1) Отсоедините шнур питания перем. тока и снимите верхнюю панель.
   2) Вращайте главный кулачковый механим по часовой стрелке и разгрузите механизм (лента остается).
3. Вращайте стержень двигателя ведущего вала по часовой стрелке, если смотреть снизу, чтобы устранить запутывание ленты.
4. Вращайте главный кулачковый механизм по часовой стрелке, чтобы выбросить кассету с лентой.

1-5. ГЕНЕРАТОР ТАКТОВЫХ ИМПУЛЬСОВ ТАЙМЕРА

После выполнения следующих ремонтных операций (замены частей), необходимо отрегулировать генератор тактовых импульсов таймера для гарантии точности времени, так как изменились значения регулировки.

а) Заменен кварцевый генератор (X6001).
б) Заменен ЭППЗУ (IC6007).
Нет необходимости проводить регулировку, если заменен микропроцессор управления системой (IC6001).

ПРОЦЕДУРА РЕГУЛИРОВКИ ГЕНЕРАТОРА ТАКТОВЫХ ИМПУЛЬСОВ ТАЙМЕРА

Когда заменены вышеуказанные две части X6001 и/или IC6007, то резисторы R7003 и R7004 должны быть изменены, как ниже указано.

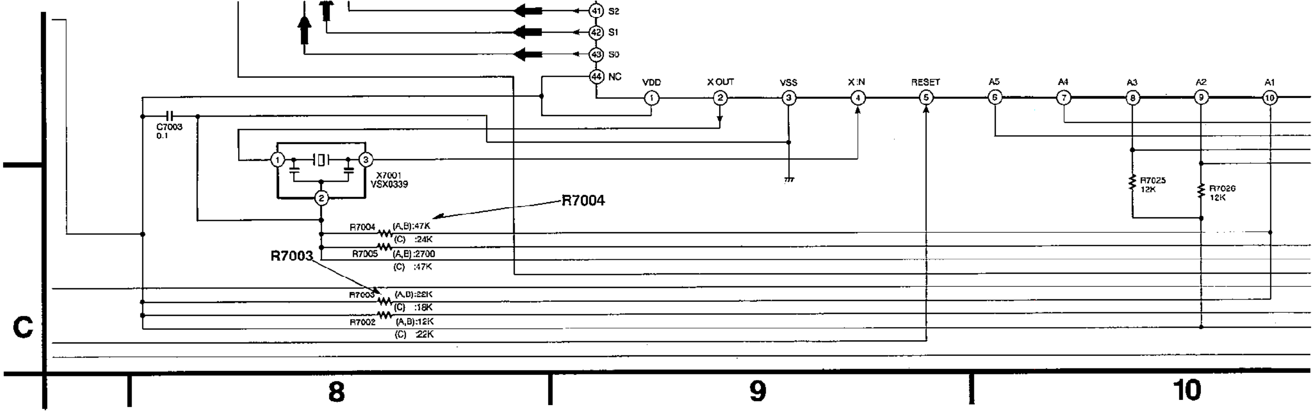
NV-SD570AM/EU

	До замены X6001 и/ или IC6007	После замены X6001 и/ или IC6007
R7003	ERJ6GMYJ223(22кОм)	ERJ6GMYJ123(12кОм)
R7004	ERJ6GMYJ473(47кОм)	ERJ6GMYJ272(2,7 кОм)

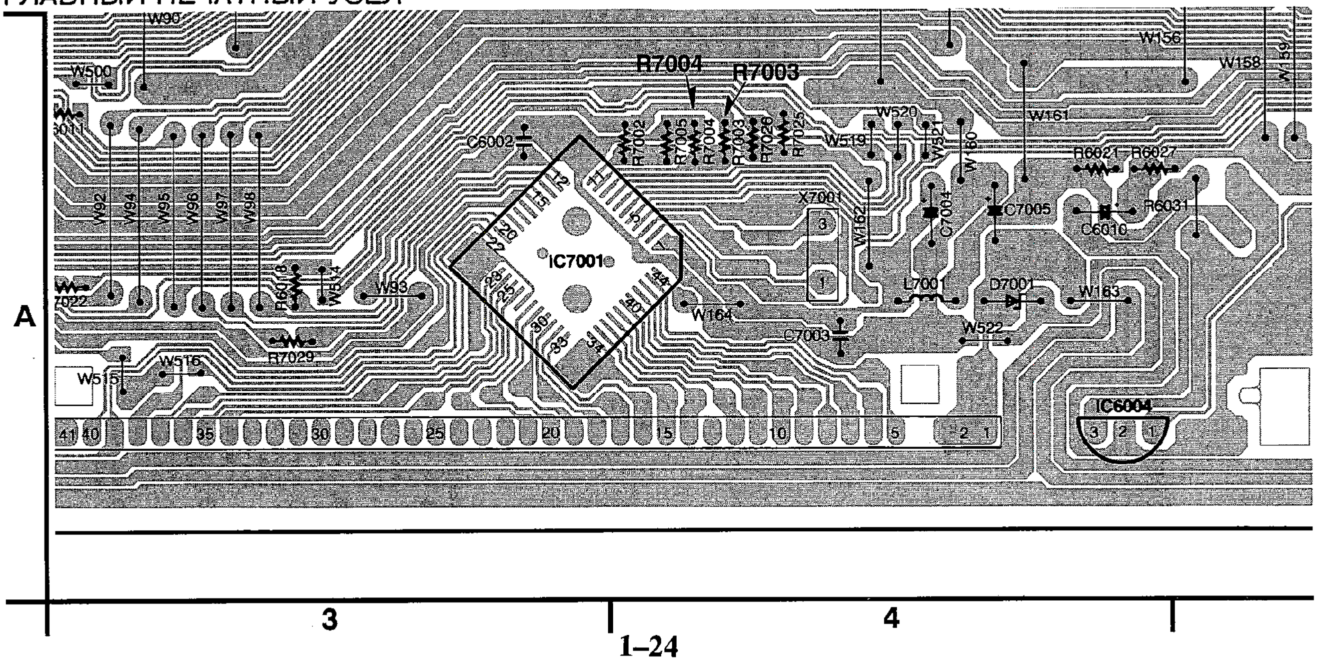
NV-HD670BD

	До замены X6001 и/ или IC6007	После замены X6001 и/или IC6007
R7003	ERJ6GMYJ183(18кОм)	Не установлен
R7004	ERJ6GMYJ243(24кОм)	ERJ6GMYJ103(10кОм)

БЛОКИ УПРАВЛЕНИЯ СИСТЕМОЙ И СЕРВОМЕХАНИЗМА / ТАЙМЕРА / ПРИВОДА В ГЛАВНОЙ ПРИНЦИПИАЛЬНОЙ СХЕМЕ


41 S2
42 S1
43 S0
44 NC
VDD
XOUT
VSS
XIN
RESET
A5
A4
A3
A2
A1
C7003
0.1
X7001
VSX0339
R7004
R7003
R7025
12K
R7026
12K
R7004 (A,B):47K (C):24K
R7005 (A,B):2700 (C):47K
R7003 (A,B):22K (C):18K
R7002 (A,B):12K (C):22K
C
8
9
10

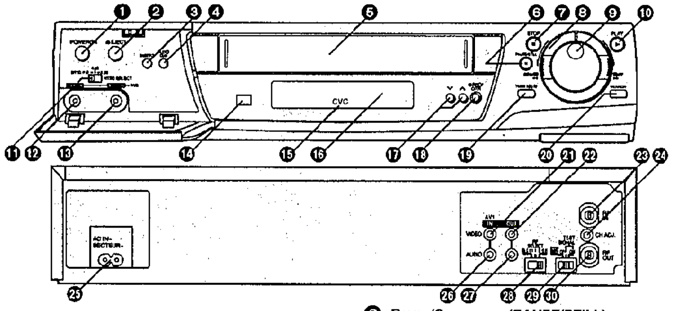
ГЛАВНЫЙ ПЕЧАТНЫЙ УЗЕЛ

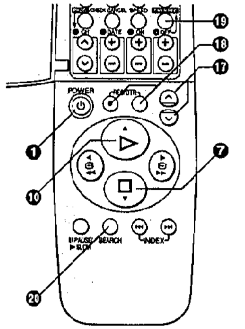

W90
W500
W156
W158
W159
R7004
R7003
W520
W519
W521
W160
W161
R6021
R6027
C6002
R7002
R7005
R7004
R7003
R7026
R7025
X7001
W162
C7004
C7005
R6031
C6010
W92
W94
W95
W96
W97
W98
R6018
W84
W93
IC7001
L7001
D7001
W163
W164
C7003
W522
R7029
W516
W515
IC6004
A
3
4

1-6. ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ (NV-SD570AM)

Органы управления и соединительные гнезда

Здесь дается детальное объяснение функций каждой кнопки, переключателя и соединительного гнезда.





ПЕРЕДНЯЯ ПАНЕЛЬ

① **Питание (POWER ⏻/I)**
Переключает ВКМ из режима включено (ON) в режим готовности и обратно. В режиме готовности ВКМ остается подключенным к сети питания переменного тока.

② **Выброс (EJECT)**
Используется для выброса видеокассеты.

③ **Вставка (INSERT)**
Используется для установки ВКМ в режим редактирования вставкой.
При отображении информации на экране телевизора появляется индикация **INSERT**.

④ **Аудио перезапись (AUDIO DUB)**
Используется для установки ВКМ в режим аудио перезаписи.
При отображении информации на экране телевизора появляется индикация **A.DUB**.

⑤ **Кассетный блок**
Видеокассету следует вставлять здесь.

⑥ **Пауза/Стоп-кадр (PAUSE/STILL)**
В режиме остановки:
Останавливает изображение (стоп-кадр). (Режим циферблата/челночного кольца)
В время воспроизведения:
- При нажатии:
  Останавливает изображение (стоп-кадр). Высвечивается индикатор "II". (Режим циферблата/челночного кольца)
- При нажатии в течение 2 или более секунд:
  Замедленное воспроизведение. Высвечивается индикатор "I▷".

Во время записи: прерывает запись.

⑦ **Остановка (STOP)**
Используется для остановки воспроизведения, записи или выброса видеокассеты.

⑧ **Челночное кольцо**
В режиме остановки:
Перемотать ленту в поступательном или обратном направлении
В режиме воспроизведения:
Производить поиск изображения в поступательном или обратном направлении
В режиме воспроизведения стоп-кадра:
Производить регулировку скорости воспроизведения в поступательном или обратном направлении.
В режиме перемотки в поступательном или обратном направлении:
Получить изображение с высокой частотой смены кадров.

⑨ **Циферблат**
Позволяет найти любой заданный кадр с максимальной точностью.

⑩ **Воспроизведение (PLAY)**
Используется для инициирования воспроизведения.
Высвечивается индикатор "▷".
Используется для функции повторного воспроизведения.

⑪ **Выбор NTSC (NTSC SELECT)**
Установите в соответствии с системой цветности ТВ.
NTSC P.B.:
Для телевизоров, которые могут принимать сигналы системы PAL.
Выходной сигнал является сигналом системы квази-PAL.
4.43:
При приеме сигналов системы NTSC 4.43.
Для телевизоров, которые могут принимать сигналы системы NTSC 4.43.
3.58:
При приеме сигналов системы NTSC 3.58.
Для телевизоров, которые могут принимать сигналы системы NTSC 3.58.

⑫ **Видео вход [VIDEO IN (AV2)]**
Используется для подсоединения видеокабеля от видеокамеры или другого аппарата.

⑬ **Аудио вход [AUDIO IN (AV2)]**
Используется для подсоединения аудиокабеля от видеокамеры или другого аппарата.

⑭ **Окошко приемника устройства инфракрасного дистанционного управления**

⑮ **Индикатор CVC (контроль изображения с помощью интегральной схемы)**
Этот индикатор высвечивается в случае, если ВКМ включен.

⑯ **Дисплей**

⑰ **∨ ∧**
Используется для выборки требуемой программной позиции (ТВ станции) на ВКМ.

Для регулировки трекинга и регулировки вертикальной фиксации.
- Для ручной регулировки трекинга
  Кнопки ∨ и ∧ используются для регулировки трекинга, когда, например, шумовые полосы на изображении удаляются вручную лучше, чем при помощи автоматического цифрового трекинга. Для возврата к автоматическому цифровому управлению трекингом нажмите обе кнопки вместе.
- Для медленной регулировки трекинга
  Если во время режимов воспроизведения стоп-кадра или замедленного воспроизведения появляются шумовые полосы, переключите на режим замедленного воспроизведения и добейтесь уменьшения шумовых полос регулировкой кнопки ∨ или ∧.
- Для регулировки вертикальной фиксации
  Пользуйтесь кнопками ∨ и ∧ для уменьшения вертикального дрожания во время воспроизведения стоп-кадра.

⑱ **Запись/Запись одним нажатием (REC/OTR)**
Используется для инициирования Записп.
Используется для записи одним нажатием (OTR).
- Нажмите обе кнопки одновременно для устройства дистанционного управления.

⑲ **Запись по таймеру (TIMER REC)**
Используется для включения и выключения функции записи по таймеру.
Индикатор ⏲ высвечивается или не высвечивается.

При включении функции записи по таймеру нормальное функционирование ВКМ невозможно до тех пор, пока Вы снова не нажмете эту кнопку и не отключите режим готовности к записи по таймеру на ВКМ.

⑳ **Поиск (SEARCH)**
Выполняется поиск записанной программы, используя функции поиска по программному списку после записи по таймеру и ускоренного сканирования начал записанных программ.

ЗАДНЯЯ ПАНЕЛЬ

㉑ **Видео вход [VIDEO IN (AV1)]**
Используется для подсоединения видеокабеля от видеокамеры или другого аппарата.

㉒ **Видео выход (VIDEO OUT)**
Используется для подсоединения видеокабеля к ТВ или другому аппарату.

㉓ **Радиочастотный вход (RF IN)**
Используется для подсоединения к внешней антенне.

㉔ **Регулировка каналов (CH ADJ.)**
Используется для перенастройки РЧ передающих каналов C22–27 (E30–40, US26–39, J25–38).

㉕ **Вход переменного тока (AC IN~)**
Используется для подсоединения к электрической сети.

㉖ **Аудио вход [AUDIO IN (AV1)]**
Используется для подсоединения аудиокабеля от видеокамеры или другого аппарата.

㉗ **Аудио выход (AUDIO OUT)**
Используется для подсоединения аудиокабеля к ТВ или другому аппарату.

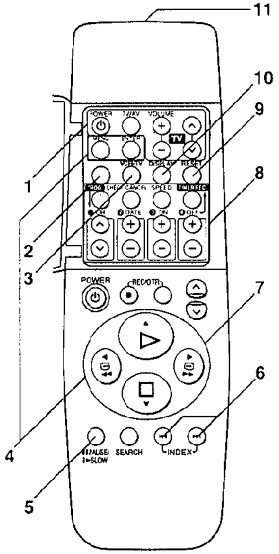
㉘ **Селектор радиочастот (RF SELECT)**
Используется для установки системы цветности, используомой в подключаемом телевизоре.
D.K.K1: PAL D/SECAM D.K.K1
I: PAL I
B.G.H: PAL B.G.H/SECAM B.G

㉙ **Переключатель режимов радиочастотного выхода/тестового сигнала (RF OFF/TEST SIGNAL)**
RF OFF: Установите в это положение в случае подсоединения ВКМ к телевизору посредством аудио/видео кабеля.
TEST SIGNAL OFF:
Установите в это положение в случае подсоединения ВКМ к телевизору посредством только радиочастотного коаксиального кабеля.
TEST SIGNAL ON:
Установите в это положение в случае настройки телевизора на ВКМ.
Изначально тестовый сигнал передается по каналу C25 (CHINA), E38 (CCIR), US между 36 и 37 (NTSC) или J между 35 и 36 (NTSC).

㉚ **Радиочастотный выход (RF OUT)**
Используется для соединения с антенным разъёмом телевизора.

Инфракрасное устройство дистанционного управления

Инфракрасное устройство дистанционного управления для этого ВКМ является универсальным устройством дистанционного управления. Поэтому некоторые его кнопки не используются для управления ВКМ.



1 **Кнопки управления телевизором**

Питание (ТВ) [POWER (TV)]
Нажимается для переключения телевизора из режима включено в режим готовности и обратно. В режиме готовности телевизор остается подключенным к сети питания переменного тока.
- Для некоторых моделей телевизоров с использованием этой кнопки возможно только переключение ТВ в режим готовности. В этом случае используйте кнопки **TV/AV** или ∨∧ **(TV)** для включения телевизора.

Используется для установки устройства дистанционного управления для управления телевизором.

TV/AV
Используется для выбора входного сигнала ТВ.

Регулировка громкости (VOLUME)
Используется для регулировки громкости ТВ.

∨ ∧ (ТВ) [∨ ∧ (TV)]
Используется для выборки требуемой программной позиции (ТВ станции) на ТВ.

2 Нет функции.
Эта кнопка не используется для управления ВКМ.

3 **ВКМ/ТВ (VCR/TV)**
Эта кнопка не используется для управления ВКМ.

4 **Кнопки управления меню отображения информации на экране телевизора**
Кнопки с буквами зеленого цвета используются для работы с меню отображения информации на экране телевизора.

Меню (MENU)
Используется для инициирования появления главного меню для отображения информации на экране телевизора.

Ввод (ENTER)
Используется для подтверждения выбора или сохранения.

▲ ▼ ◄ ►
Используется для выполнения выборок при отображении информации на экране телевизора.
- Эти кнопки могут также использоваться для режимов воспроизведения, остановки, ускоренной перемотки в обратном и прямом направлениях.

5 **Пауза/Стоп-кадр/Замедленное воспроизведение PAUSE/SLOW**
Во время воспроизведения:
- При нажатии: стоп-кадр. Высвечивается. индикатор "▯▯".
- При нажатии в течение 2 или более секунд: замедленное воспроизведение. Высвечивается индикатор "▯▷".

Во время записи: прерывает запись.

6 **Индекс (INDEX)**
Используется для поиска по индексации.

7 **Воспроизведение (▷)**
Используется для инициирования воспроизведения.
Высвечивается индикатор "▷".
Используется для функции повторного воспроизведения.

Ускоренная перемотка в обратном направлении (◄◄)
В режиме остановки: ускоренно перематывает ленту.
В режиме воспроизведения: выполняется поиск в обратном направлении.
В режиме перемотки: достигается изображение с высокой частотой смены кадров.
Высвечивается индикатор "◁◁".

Ускоренная перемотка в прямом направлении (►►)
В режиме остановки: ускоренно перематывает ленту в прямом направлении.
В режиме воспроизведения: выполняется поиск в прямом направлении.
В режиме ускоренной перемотки ленты в прямом направлении: достигается изображение с высокой частотой смены кадров.
Высвечивается индикатор "▷▷".

Остановка (□)
Используется для остановки воспроизведения, записи или пыброса видеокассеты.

8 **Кнопки управления записью по таймеру**

Программа/проверка (PROG./CHECK)
Используется для установки и проверки программ для записи по таймеру.

Отмена (CANCEL)
Используется для отмены установок, сделанных для записи по таймеру.

Скорость (SPEED)
Используется для выбора желаемой скорости ленты для записи.
Положение SP обеспечивает наилучшее качество изображения.
Положение LP (EP) обеспечивает наибольшее время записи.
- На дисплее ВКМ или при отображении информации на экране сейчас появляется индикатор (SP, LP или EP), соответствующий выбранной скорости ленты.
  LP: Этот индикатор появляется, когда входными или выходными сигналами являются сигналы системы PAL/MESECAM.
  EP: Этот индикатор появляется, когда входными или выходными сигналами являются сигналы системы NTSC.

Запись по таймеру (TIMER REC)
Используется для включения и выключения функции записи по таймеру.
Индикатор ◷ высвечивается или не высвечивается.
При включении функции записи по таймеру нормальное функционирование ВКМ невозможно до тех пор, пока Вы снова не нажмете эту кнопку и не отключите режим готовности к записи по таймеру на ВКМ.

Проверка (CH)
Используется для программирования записи по таймеру.

Дата (DATE)
Используется для программирования записи по таймеру.

Вкл (ON)
Используется для программирования записи по таймеру.

Выкл (OFF)
Используется для программирования записи по таймеру.
Используется для установки устройства дистанционного управления для управления телевизором.

9 **Сброс (RESET)**
Используется для сброса счетчика ленты (истекшего времени) на "0:00.00".
- При вставлении видеокассеты счетчик автоматически сбрасывается на "0:00.00".

10 **Дисплей (DISPLAY)**
Используется для изменения индикации, отображаемой на дисплее ВКМ, или при отображении информации на экране телевизора следующим образом.

→Часы→Счетчик→Оставшееся время на ленте

11 **Инфракрасный передатчик**

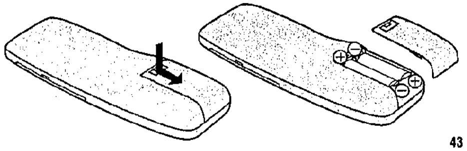
Источник питания для устройства дистанционного управления

Устройство дистанционного управления снабжается электропитанием от 2-х батарей размера "AA", "UM3" или "R6". Срок службы батарей составляет приблизительно один год, однако он зависит от частоты использования.

Меры предосторожности при замене батарей

- Устанавливайте новые батареи, правильно выполнив расстановку их полярностей (⊕ и ⊖).
- Не следует нагревать батареи, иначе может произойти внутреннее замыкание.
- Если Вы не собираетесь использовать устройство дистанционного управления в течение длительного периода времени, то следует удалить батареи и хранить их в сухом и прохладном месте.
- Использованные батареи следует немедленно удалить и выбросить в мусор.
- Не следует использовать одновременно старые и новые батареи, а также никогда не следует использовать одновременно щелочные и марганцевые батареи.

Установка батарей



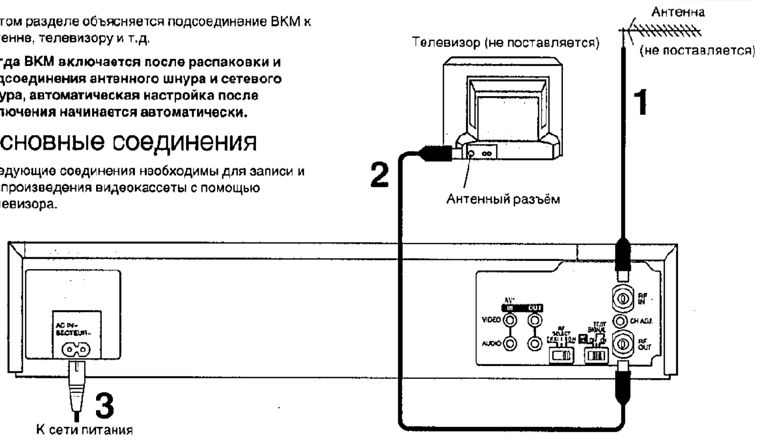
Соединения

В этом разделе объясняется подсоединение ВКМ к антенне, телевизору и т.д.

Когда ВКМ включается после распаковки и подсоединения антенного шнура и сетевого шнура, автоматическая настройка после включения начинается автоматически.

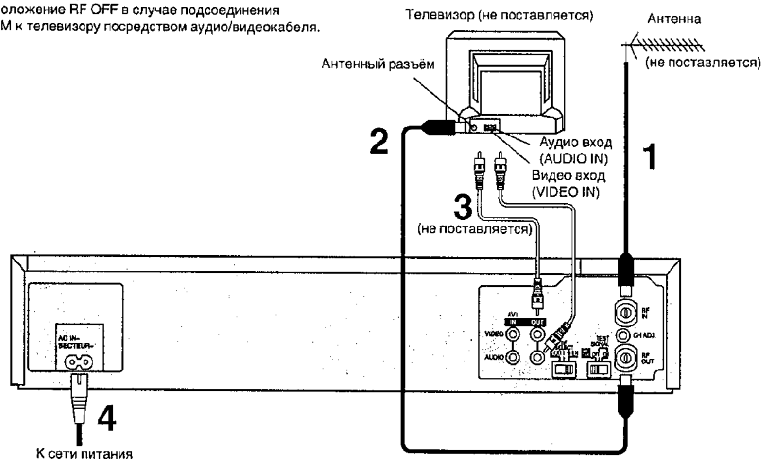
Основные соединения

Следующие соединения необходимы для записи и воспроизведения видеокассеты с помощью телевизора.

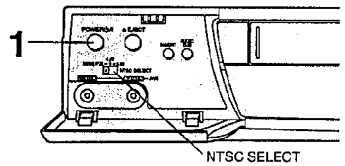


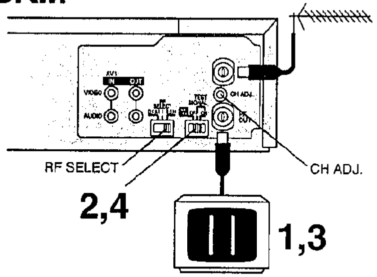
Соединение с телевизором, используя аудио/видео входы

Примечание:
Установите переключатель **RF OFF/TEST SIGNAL** в положение RF OFF в случае подсоединения ВКМ к телевизору посредством аудио/видеокабеля.



Настройка ТВ на Ваш ВКМ





ВКМ передает сигнал на ТВ через радиочастотный коаксиальный кабель по каналу C25, E38, US между 36 и 37 или J между 35 и 36.

На Вашем телевизоре можно наблюдать такое же видеоизображение, как и во время просмотра телетрансляций.

Если Вы подсоединили видеомагнитофон к телевизору через видео и аудио входные гнезда, тогда Вам не потребуется проделывать процедуру, описанную ниже.

Когда ВКМ включается после распаковки и подсоединения антенного шнура и сетевого шнура, автоматическая настройка после включения начинается автоматически.

Примечания:
- Если ВКМ включается с неподсоединенной антенной, пропускаются все каналы. Следовательно, плотно подсоедините антенну, а затем выключите ВКМ и включите его снова для выполнения автоматической настройки.
- Нри отмене автоматической нocтройки в середине она не выполняется, даже если ВКМ выключается, а затем включается снова. В этом случае смотрите раздел "**Для повторного запуска автоматической настройки после включения:**" на стр. 46.

Операции

1

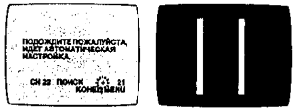
Включите телевизор и видеомагнитофон. Убедитесь, что ВКМ подсоединен к антенному кабелю.
- На чинается автоматическая настройка. (См. следующую страницу.)

2

TEST SIGNAL

Для генерации тестового сигнала, установите переключатель **RF OFF/TEST SIGNAL** в положение ON.

3 Отображение информации на экране телевизора


ПОДОЖДИТЕ ПОЖАЛУЙСТА, ИДЕТ АВТОМАТИЧЕСКАЯ НАСТРОЙКА.
CH 22 ПОИСК 21
КОНЕЦ:MENU

(Во время автоматической настройки после включения) Тестовый сигнал (после автоматической настройки после включения)

Установите телевизор на свободный канал, который Вы желаете использовать для видео воспроизведения.
- Выполняйте настройку ТВ до тех пор, пока на экране не появится тестовый сигнал.
- Во время автоматической настройки экран тестового сигнала не появляется, а вместо него появляется экран автоматической настройки.

4

TEST SIGNAL

Установите переключатель **RF OFF/TEST SIGNAL** в положение OFF.

Примечание:
Тестовый сигнал передается по видео каналу C25 (CHINA), E38 (CCIR). US между 36 и 37 (NTSC) или J между 35 и 36 (NTSC). Если Вы сталкиваетесь с помехами от телевещания на этом видео канале, Вы можете перестроиться на другой свободный канал (C22–27, E30–40, US26–39, J25–38) посредством регулировки винта **CH ADJ.**, расположенного на задней панели видеомагнитофона.

При вращении винта **CH ADJ.** будьте осторожны, чтобы не отвернуть его слишком сильно.

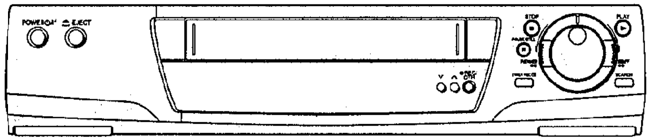
Пожалуйста, обратите внимание на то, что, если Вы воспользуетесь винтом **CH ADJ.**, Вам следует перестроить Ваш телевизор обратно на тестовый сигнал, следуя вышеописанным пунктам **2–4**.

Радиочастотный селектор (RF SELECT)
Радиочастотный селектор **RF SELECT** используется для выбора ТВ системы цветности, используемой в подключаемом телевизоре.

D.K.K1:	PAL D/SECAM D.K.K1
I:	PAL I
B.G.H:	PAL B.G.H/SECAM B.G

- Когда переключатель **NTSC SELECT** на передней панели установлен в положение 3.58 во время воспроизведения NTSC или записи сигналов NTSC, независимо от положения радиочастотного селектора **RF SELECT** будет выбрана система NTSC 3.58.

Хранение вещания ТВ в Вашем ВКМ

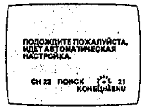

POWER
EJECT
STOP
PLAY
SEARCH

Видеомагнитофон снабжен своим собственным тюнером (таким, какой имеется у обычного телевизора) и может быть установлен для приема до 99 телевизионных вещательных станций.

Автоматическая настройка после включения

Когда ВКМ включается после распаковки и подсоединения антенного шнура и сетевого шнура, автоматическая настройка начинается автоматически.

Отображение информации на экране телевизора


ПОДОЖДИТЕ ПОЖАЛУЙСТА.
ИДЕТ АВТОМАТИЧЕСКАЯ НАСТРОЙКА.
CH 23 ПОИСК 21
КОНЕЦ:MENU

С помощью автоматической настройки отыскиваются ТВ станции от минимальной ОВЧ (VHF) до максимальной УВЧ (UHF), и запоминаются данные для каждой программной позиции.

- Если во время автоматической настройки на ВКМ начинается воспроизведение, автоматическая настройка будет остановлена на полпути.

Для отмены операции автоматической настройки в середине:

Нажмите кнопку **MENU** во время автоматической настройки. Это действует как отмена автоматической настройки. Другим способом её отмены является нажатие кнопки **POWER** ⏻/I: в этом случае, однако, ВКМ выключается.

MENU
○

Для повторного запуска автоматической настройки после включения:

1 Нажмите кнопку **EJECT** и удалите видеокассету.

2 Держите нажатыми одновременно кнопки ∨ ∧ на ВКМ в течение 3 или более секунд при включенном ВКМ.

∨ ∧
○ ○

- Канал, высвечиваемый на дисплее ВКМ, на мгновение исчезает, а затем изменяется на 1.

Символы дисплея

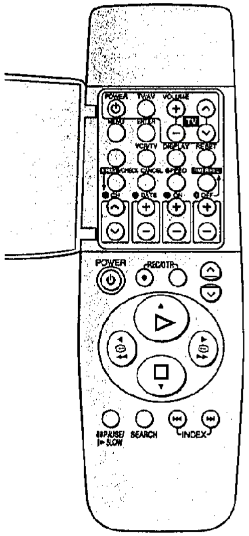
Исчезает→1

3 Выключите ВКМ, а затем включите его снова.
- Начинается автоматическая настройка.

Автоматическая настройка с помошью отображения информации на экране телевизора

Введение

Этот ВКМ настраивается автоматически с помощью автоматической настройки после включения. Однако если требуется, следует выполнить автоматическую настройку, используя отображение информации на экране телевизора, в соответствии со следующим методом.

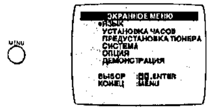

POWER
TV/AV
VOLUME
MENU
ENTER
TV
VCR/TV
DISPLAY
RESET
CH
DATE
ON
OFF
POWER
REC/OTR
PAUSE/STILL
SLOW
SEARCH
INDEX

Подготовка

- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Включите ВКМ и выберите любую программную позицию, за исключением A1 или A2.

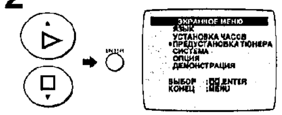
Операции **Отображение информации на экране телевизора**

1


MENU
ЭКРАННОЕ МЕНЮ
●ЯЗЫК
УСТАНОВКА ЧАСОВ
ПРЕДУСТАНОВКА ТЮНЕРА
СИСТЕМА
ОПЦИЯ
ДЕМОНСТРАЦИЯ
ВЫБОР :▢▢,ENTER
КОНЕЦ :MENU

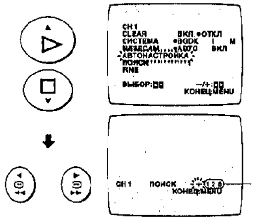
Нажмите кнопку **MENU**.

2


ENTER
ЭКРАННОЕ МЕНЮ
ЯЗЫК
УСТАНОВКА ЧАСОВ
●ПРЕДУСТАНОВКА ТЮНЕРА
СИСТЕМА
ОПЦИЯ
ДЕМОНСТРАЦИЯ
ВЫБОР :▢▢,ENTER
КОНЕЦ :MENU

Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА**.

3 Выберите индикацию **АВТОНАСТРОЙКА** и нажмите кнопку ◀ или ▶.


CH 1
CLEAR ВКЛ ●ОТКЛ
СИСТЕМА ●BGDK I M
MESECAM ●АВТО ВКЛ
АВТОНАСТРОЙКА
ПОИСК
FINE
ВЫБОР:▢▢
–/+:▢▢
КОНЕЦ:MENU
CH 1 ПОИСК 128
КОНЕЦ:MENU

- После завершения автоматической настройки отображение информации на экране телевизора исчезает, и выбирается программная позиция 1.
- После автоматической настройки повторно установите позицию I для индикации **СИСТЕМА** для системы телевещания PAL I.
- Номер для пункта **CH** может быть отличен от такового для пункта **ПОИСК**.

Цифра, высвечиваемая здесь, обозначает число каналов, на которые еще требуется выполнить автоматическую настройку.

Примечания:
- Функция автоматической настройки отыскивает ТВ станции в диапазоне от минимальной ОВЧ (VHF) до максимальной УВЧ (UHF) и запоминает данные для каждой настроенной программной позиции. Оставшиеся программные позиции пропускаются.
- Завершение поиска с помощью функции автоматической настройки занимает семь или более минут.
- В случае, если невозможно правильно настроить ВКМ с помощью автоматической настройки, следуйте процедуре на следующей странице.

Процедура установки системы вручную

1 Выберите желаемую программную позицию нажатием кнопки ∨ или ∧.
2 Нажмите кнопку **MENU**.
3 Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА** нажатием кнопки ▲ или ▼, а затем нажмите кнопку **ENTER**.
4 Выберите индикацию **СИСТЕМА** нажатием кнопки ▲ или ▼, а затем выберите систему телевещания нажатием кнопки ◄ или ►.
- BGDK: При приеме системы телевещания PAL B.G.H.D или SECAM B.G.D.K.K1.
- I: При приеме системы телевещания PAL I.
- M: При приеме системы телевещания NTSC.

5 Нажмите кнопку **MENU** дважды.

Процедура установки системы MESECAM вручную

1 Выберите желаемую программную позицию нажатием кнопки ∨ или ∧.
2 Нажмите кнопку **MENU**.
3 Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА** нажатием кнопки ▲ или ▼, а затем нажмите кнопку **ENTER**.
4 Выберите индикацию **MESECAM** нажатием кнопки ▲ или ▼, а затем выберите позицию **ВКЛ** нажатием кнопки ◄ или ►.
5 Нажмите кнопку **MENU** дважды.

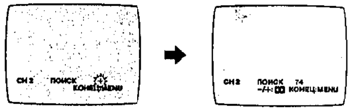
Процедура настройки вручную

1 Нажмите кнопку **MENU**.
2 Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА** нажатием кнопки ▲ или ▼, а затем нажмите кнопку **ENTER**.
3 Выберите индикацию **CH** нажатием кнопки ▲ или ▼, а затем выберите номер канала, на который Вы желаете настроиться, нажатием кнопки ◄ или ►.
4 Убедитесь в том, что для индикации **CLEAR** выбрана позиция **ОТКЛ**.
5 Выберите индикацию **СИСТЕМА** нажатием кнопки ▲ или ▼, а затем выберите систему телевещания нажатием кнопки ◄ или ►.
- BGDK: При приеме системы телевещания PAL B.G.H.D или SECAM B.G.D.K.K1.
- I: При приеме системы телевещания PAL I.
- M: При приеме системы телевещания NTSC.

6 Выберите индикацию **MESECAM** нажатием кнопки ▲ или ▼, а затем выберите позицию **АВТО** нажатием кнопки ◄ или ►.
- ВКМ автоматически различает системы телевещания PAL и SECAM.
- Если в изображении отсутствует цветность при выборе позиции **АВТО**, выберите позицию **ВКЛ**.

7 Выберите индикацию **ПОИСК** нажатием кнопки ▲ или ▼, а затем нажмите кнопку ◄ или ►.

Отображение информации на экране телевизора



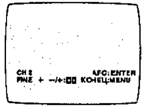
- Если настройка на желаемую ТВ станцию не была выполнена, нажмите кнопку ◄ или ► снова.

- Нажмите кнопку **MENU** и повторите пункты **3–7** для каждой программной позиции, которую Вы желаете настроить на станцию.

8 Для выхода нажмите кнопку **MENU** три раза.

Процедура точной настройки

1 Нажмите кнопку **MENU**.
2 Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА** нажатием кнопки ▲ или ▼, а затем нажмите кнопку **ENTER**.
3 Выберите индикацию **CH** нажатием кнопки ▲ или ▼, а затем выберите программную позицию нажатием кнопки ◄ или ►.
4 Выберите индикацию **FINE** нажатием кнопки ▲ или ▼.
5 Нажмите кнопку ◄ или ► с целью наилучшей настройки.
- Для возвращения настройки в предыдущее положение нажмите кнопку **ENTER**.



6 Нажмите кнопку **MENU**.

Исключение незанятых позиций программы

1 Нажмите кнопку **MENU**.
2 Выберите индикацию **ПРЕДУСТАНОВКА ТЮНЕРА** нажатием кнопки ▲ или ▼, а затем нажмите кнопку **ENTER**.
3 Выберите индикацию **CH** нажатием кнопки ▲ или ▼, а затем выберите программную позицию нажатием кнопки ◄ или ►.
4 Выберите индикацию **CLEAR** нажатием кнопки ▲ или ▼.
5 Выберите позицию **ВКЛ** нажатием кнопки ◄ или ►.
- Повторите пункты **3–5** для другой незанятой программной позиции для пропуска во время выбора программных позиций.
- Для отмены исключения программной позиции выберите эту программную позицию, а затем выберите позицию **CLEAR ОТКЛ**.

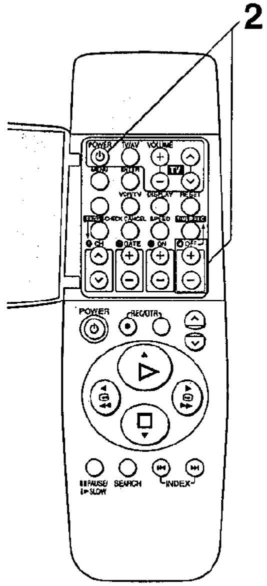
6 Нажмите кнопку **MENU** дважды.

Схема каналов, которые могут приниматься

	СИСТЕМА	ОВЧ	Кабельное ТВ	УВЧ
BGDK	Стандарт CCIR STD (B,G,H)	E2–E12	S01–S05 M1–M10 U1–U10 S21–S41	E21–E69
	CHINA (D)	C1–C12	Z1–Z35	C13–C57
	EAST EU (D,K,K1)	R1–R12	44–470 МГц	E21–E69
I	HONG KONG, UK (I)	—		21–69
M	USA (NTSC)	2–13	5A A-5–FFF	14–79
	JAPAN (NTSC)	1–12	C13–C63	13–62

Установка устройства дистанционного управления для управления Вашим ТВ

Вы можете управлять телевизорами следующих фирм-производителей, перечисленных ниже, используя устройство дистанционного управления после его установки.



1 Panasonic/National
2 Panasonic/National
3 Panasonic/National
4 Panasonic/National
5 SONY
6 TOSHIBA
7 JVC
8 HITACHI
9 MITSUBISHI
10 MITSUBISHI
11 SHARP
12 PHILIPS, SAMSUNG
13 NEC
14 SANYO
15 GOLDSTAR
16 GOLDSTAR
17 SAMSUNG
18 SAMSUNG
19 SANYO

Подготовка

Установите батареи в устройство дистанционного управления.

Операции

1 Включите телевизор.

2 Нажимайте кнопку **OFF** "+" или "–" медленно и аккуратно, при удерживании нажатой кнопки **POWER (TV)**. При каждом нажатии кнопки "+" или "–" номер изменяется в следующей последовательности.
- При нажатии кнопки "+": 1→2→...19→1→...
- При нажатии кнопки "–": 19→18→...1→19→...
- Телевизор выключится, когда Вы достигните номера, соответствующего фирме-производителю Вашего ТВ. Номер фирмы производителя не высвечивается.

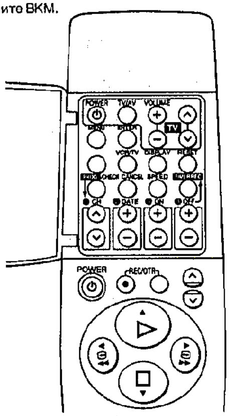
Примечание:
Управление некоторыми моделями телевизоров с помощью этого устройства дистанционного управления является невозможным.

В случае, если фирмой-производителем является Panasonic/National, MITSUBISHI, SANYO, GOLDSTAR или SAMSUNG:
Если после установок невозможно управление ни одной из функций, за исключением той, которая выключает питание, повторите пункт 2 и выполните установки снова, используя номер другой фирмы-производителя.

Установка языка при отображении информации на экране телевизора

Подготовка

- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Включите ВКМ.

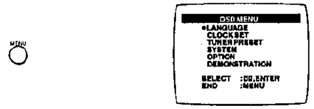


Для выбора желаемого языка

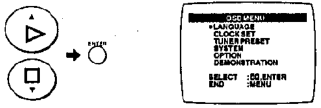
Выберите один из двух индицируемых языков: English или Русский.

1 Нажмите кнопку MENU.

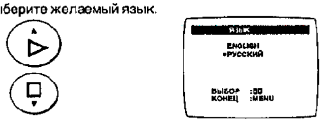
Отображение информации на экране телевизора



2 Выберите индикацию LANGUAGE.



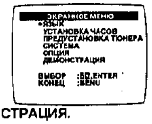
3 Выберите желаемый язык.



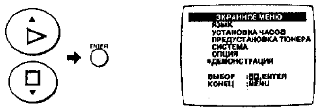
4 Нажмите кнопку MENU дважды.

Для демонстрации меню отображения информации на экране телевизора

1 Нажмите кнопку MENU.



2 Выберите индикацию ДЕМОНСТРАЦИЯ.



- Во время режима демонстрации все отображения информации на экране телевизора высвечиваются одно за другим с интервалом около пяти секунд.

3 Нажмите кнопку MENU для остановки функции демонстрации.

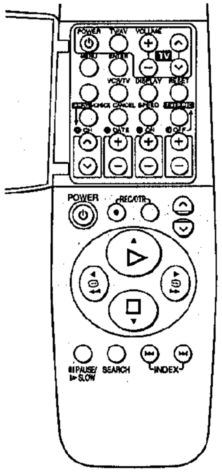
Примечание:
Экран меню имеет голубой фон. Однако, если при выбранной позиции A1 или A2 отсутствует входной сигнал, экран меню может измениться на черно-белый при нажатии кнопки MENU. Это не указывает на неисправность. Если это произойдет, подайте входной сигнал, либо выберите другую программную позицию.

Установка часов Вашего ВКМ

Встроенные цифровые часы используются, чтобы привести в действие таймер для автоматической записи, и должны быть установлены на точное время. В них используется 24-часовая система.

Подготовка

- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Включите ВКМ.



Функция сброса временной установки

Если часы спешат или отстают менее чем на две минуты, точное время может быть легко выставлено повторно.

Пример:
Выставить часы повторно на 12:00.00.

1 Выберите индикацию **УСТАНОВКА ЧАСОВ** при отображении информации на экране телевизора и нажмите кнопку **ENTER**.

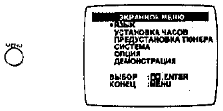
2 При показаниях текущего времени на дисплее ВКМ между 11:58.00 и 12:01.59 нажмите кнопку MENU, как только Вы услышите сигнал времени 12:00.00. При этом произойдет сброс времени на 12:00.00.

Пример:
- Дата: 16 октября 1999 года
- Время: 20:15.

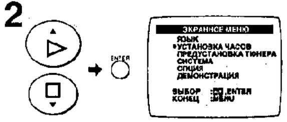
Операции

Отображение информации на экране телевизора

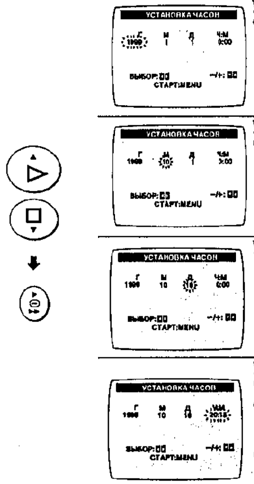
1 Нажмите кнопку **MENU**.



2 Выберите индикацию **УСТАНОВКА ЧАСОВ.**



3 Установите каждый параметр нажатием ▲ или ▼ и ▶. Нажмите кнопку ◀ для возвращения к предыдущему пункту.



Установите **год (Г)** “1999”.

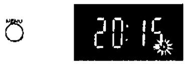
Установите **месяц (М)** “10”.

Установите **дату (Д)** “16”.

Установите **время (Ч:М)** “20:15”.
- При удерживании этой кнопки нажатой, индикации изменяются с шагом в 30 минут.
- Нет необходимости нажимать кнопку ▶.

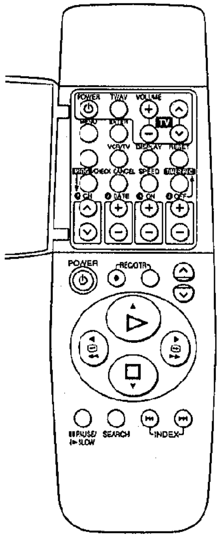
4 Нажмите кнопку **MENU**.
- Часы начнут работать.

Символы дисплея



Примечание:
В случае отключения питания часы будут работать по меньшей мере 60 минут за счет резервной системы питания.

Установки с использованием функции отображения информации на экране телевизора


POWER
TV/AV
VOLUME
TV
REC/OTR
SEARCH
INDEX

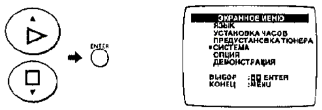
Подготовка

- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Включите ВКМ.

Установка ТВ системы цветности

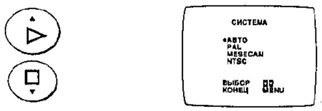
1 Нажмите кнопку **MENU**.

2 Выберите индикацию **СИСТЕМА**.


ENTER
ЭКРАННОЕ МЕНЮ
ЯЗЫК
УСТАНОВКА ЧАСОВ
ПРЕДУСТАНОВКА ТЮНЕРА
•СИСТЕМА
ОПЦИЯ
ДЕМОНСТРАЦИЯ
ВЫБОР :▯▯ ENTER
КОНЕЦ :MENU

Отображение информации на экране телевизора

3 Выберите индикацию **АВТО**.


СИСТЕМА
•АВТО
PAL
MESECAM
NTSC
ВЫБОР ▯▯
КОНЕЦ MENU

- ВКМ автоматически различает сигналы систем PAL, SECAM/MESECAM и NTSC. Если в изображении отсутствует цветность во время записи или воспроизведения с внешнего аудио/видео источника, установите в позицию **PAL**, **MESECAM** или **NTSC**.

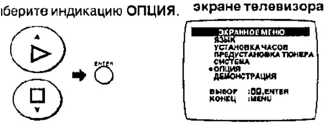
4 Нажмите кнопку **MENU** дважды для гашения информации на экране телевизора.

Отображение информации на экране телевизора

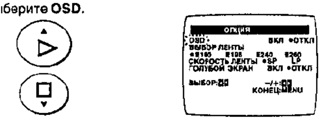
1 Нажмите кнопку **MENU**.

2 Выберите индикацию **ОПЦИЯ**.

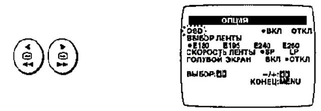
Отображение информации на экране телевизора


ENTER
ЭКРАННОЕ МЕНЮ
ЯЗЫК
УСТАНОВКА ЧАСОВ
ПРЕДУСТАНОВКА ТЮНЕРА
СИСТЕМА
•ОПЦИЯ
ДЕМОНСТРАЦИЯ
ВЫБОР :▯▯,ENTER
КОНЕЦ :MENU

3 Выберите **OSD**.


ОПЦИЯ
OSD ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР:▯▯ −/+:▯▯
КОНЕЦ:MENU

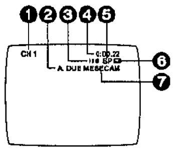
4 Выберите позицию **ВКЛ** или **ОТКЛ**.


ОПЦИЯ
OSD •ВКЛ ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР:▯▯ −/+:▯▯
КОНЕЦ:MENU

ВКЛ:	Отображение информации будет появляться на экране телевизора.
ОТКЛ:	Отображение информации на экране телевизора не будет появляться.

5 Нажмите кнопку **MENU** дважды для гашения информации на экране телевизора.

Для использования отображения информации на экране телевизора:


❶
❷
❸
❹
❺
❻
❼
CH 1
0:00.22
SP
A. DUB MESECAM

❶ **Программная позиция**

❷ **Режим редактирования**
В случае, если выбран режим редактирования (Редактирование вставкой, Аудио/видео редактирование вставкой, Аудио перезапись), появляется отображение информации на экране телевизора.

INSERT:	Редактирование вставкой
AV INSERT:	Аудио/видео редактирование вставкой
A.DUB:	Аудио перезапись

❸ Индикации движения ленты

Остановка, Выброс	
Перемотка, обзор в обратном направлении	◀◀
Перемотка, обзор в прямом направлении	▶▶
Воспроизведение	▶
Воспроизведение стоп-кадра	❙❙
Запись, Редактирование вставкой Аудио перезапись	●
Пауза при записи, Пауза при Редактирование вставкой, Пауза при Аудио перезаписи	❙❙●
Замедленное воспроизведение	❙▶
Повторное воспроизведение	R ▶

❹ **Настоящее время/счетчик ленты/оставшееся время на ленте/Индикация записи одним нажатием (OTR)/Поиск по индексации**

Информация	Индикация
Настоящее время	17:24
Счетчик ленты	−2:35.45
Оставшееся время на ленте	REMAIN 2:34
Индикация записи одним нажатием (OTR)	OTR 60
Поиск по индексации	S 01

❺ **Индикатор скорости ленты (SP/LP/EP)**

❻ **Индикатор наличия кассеты**

❼ **Индикатор системы цветности**
Во время нормального воспроизведения ,или когда выбрана позиция A1 или A2, появляется выбранная ТВ система цветности. (См. стр. 52.)
- В случае если позиция **АВТО** установлена при работе функции **СИСТЕМА** при отображении информации на экране телевизора, индикация не появляется.

Когда для индикации **MESECAM** или **ПРЕДУСТАНОВКА ТЮНЕРА** выбрана позиция **ВКЛ** (см. стр. 48), появляется индикатор **MESECAM**.

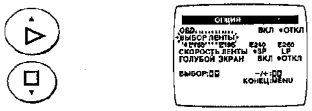
Примечания:
- Во время специального воспроизведения отображение информации на экране телевизора может быть искажено или может исчезнуть.
- Отображение информации на экране телевизора непоявляется, когда для индикации **OSD** установлена позиция ОТКЛ. Для перезаписи установите позицию ОТКЛ для индикации **OSD**.
- При покупке ВКМ для индикации **OSD** установлена позиция ОКТЛ. Установки возвращаются в нозицию ОТКЛ при выключении ВКМ.

Выбор соответствующей длины видеокассетной ленты для индикации приблизительно оставшегося времени на ленте

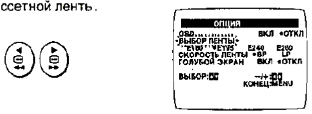
Следуйте пунктам **1** и **2** на стр. 53.

3 Выберите индикацию **ВЫБОР ЛЕНТЫ**.

Отображение информации на экране телевизора


ОПЦИЯ
OSD .... ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР: −/+: КОНЕЦ:MENU

4 Выберите соответствующую длительность кассетной ленть.


ОПЦИЯ
OSD .... ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
E180 •E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР: −/+: КОНЕЦ:MENU

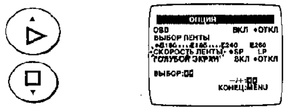
E180: для лент E30, -60, -90, -120, -150 и -180.
E195: для лент E195.
E240: для лент E240.
E260: для лент E260 и -300.

5 Нажмите кнопку **MENU** дважды для гашения информации на экране телевизора.

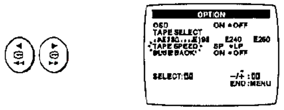
Выбор желаемой скорости ленты для записи в ручном режиме

Следуйте пунктам **1** и **2** на стр. 53.

3 Выберите индикацию **СКОРОСТЬ ЛЕНТЫ**.


ОПЦИЯ
OSD ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 ... E195 ... E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР: −/+: КОНЕЦ:MENU

4 Выберите желаемую скорость ленты.

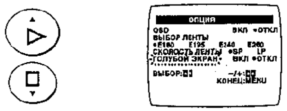

OPTION
OSD ON •OFF
TAPE SELECT
•E180 ... E195 E240 E260
TAPE SPEED SP •LP
BLUE BACK ON •OFF
SELECT: −/+: END:MENU

5 Нажмите кнопку **MENU** дважды для гашения информации на экране телевизора.

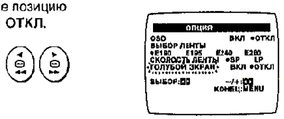
Для функции голубого экрана

Если для функции ГОЛУБОЙ ЭКРАН выбрана позиция **ВКЛ**, экран всегда будет иметь голубую окраску, когда сигнал не принимается, или принимаемый сигнал очень слабый.
Следуйте пунктам **1 и 2** на стр. 53.

3 Выберите индикацию **ГОЛУБОЙ ЭКРАН.**


ОПЦИЯ
OSD ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР: −/+: КОНЕЦ:MENU

4 Выберите позицию **ВКЛ** или **ОТКЛ.**


ОПЦИЯ
OSD ВКЛ •ОТКЛ
ВЫБОР ЛЕНТЫ
•E180 E195 E240 E260
СКОРОСТЬ ЛЕНТЫ •SP LP
ГОЛУБОЙ ЭКРАН ВКЛ •ОТКЛ
ВЫБОР: −/+: КОНЕЦ:MENU

- Если для функции **ГОЛУБОЙ ЭКРАН** выбрана позиция **ОТКЛ**, функция голубого экрана не активизируется.
- Запись голубого изображения функции голубого экрана невозможна.

5 Нажмите кнопку **MENU** дважды для гашения информации на экране телевизора.

Установка переключателя системы

Установка переключателя системы для воспроизведения

На данном ВКМ возможно воспроизведение лент, записанных в видеосистеме PAL, MESECAM или NTSC. Установите переключатель системы в соответствии с видеосистемой ленты, которую Вы желаете воспроизвести.
При воспроизведении ленты убедитесь в том, что переключатель системы установлен должным образом.

Видеосистема воспроизводимой ленты	Переключатель системы		Выходная цветность	
	СИСТЕМА[*1]	**NTSC SELECT**	**Видеосигнал**	**Антенный выход**
PAL	•АВТО PAL MESECAM NTSC	—	PAL	PAL B.G/I/D.K 5.5 6.0 6.5
MESECAM	•АВТО PAL MESECAM NTSC	—	SECAM	SECAM B.G/I/D.K 5.5 6.0 6.5
NTSC	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B. 3.58 NTSC SELECT	квази-PAL	квази-PAL B.G/I/D.K 5.5 6.0 6.5
	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B 3.58 NTSC SELECT	NTSC 4.43	NTSC 4.43 B.G/I/D.K 5.5 6.0 6.5
	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B. 3.58 NTSC SELECT	NTSC 3.58	NTSC 3.58 M 4.5

Установка переключателя системы для записи

Следует также выполнить установку переключателя системы, когда выполняется запись ТВ программы или запись с внешнего аудио/видео источника.
При выполнении записи или записи по таймеру убедитесь, что переключатель системы установлен должным образом.

Система		Переключатель системы			Записанная кассета
		ПРЕДУСТАНОВКА ТЮНЕРА[*2] **(СИСТЕМА)**	**СИСТЕМА**[*1]	**NTSC SELECT**	
ТЕЛЕВЕЩАНИЕ	PAL B/G PAL I PAL D	•BGDK I M или BGDK •I M	•АВТО PAL MESECAM NTSC	—	PAL
	SECAM D/K SECAM B/G [*3]	•BGDK I M	•АВТО PAL MESECAM NTSC	—	MESECAM
	NTSC M	BGDK I •M	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B. 3.58 NTSC SELECT	NTSC
ВХОД	PAL	—	•АВТО PAL MESECAM NTSC	—	PAL
	NTSC 3.58	—	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B. 3.58 NTSC SELECT	NTSC
	NTSC 4.43	—	•АВТО PAL MESECAM NTSC	4.43 NTSC P.B. 3.58 NTSC SELECT	

[*1] Установка OSD (отображения информации на экране телевизора) (см. стр. 52).
Если в изображении отсутствует цветность, когда выбрана позиция **АВТО**, установите в позицию **PAL**, **MESECAM** или **NTSC**.

[*2] Установка OSD (отображения информации на экране телевизора) (см. стр. 48.)

[*3] Если в изображении отсутствует цветность, когда для индикации **MESECAM** функции **ПРЕДУСТАНОВКА ТЮНЕРА** выбрана позиция **АВТО**, установите в позицию **ВКЛ**. (См. стр. 48).

Запись по таймеру

Использование отображения информации на экране телевизора

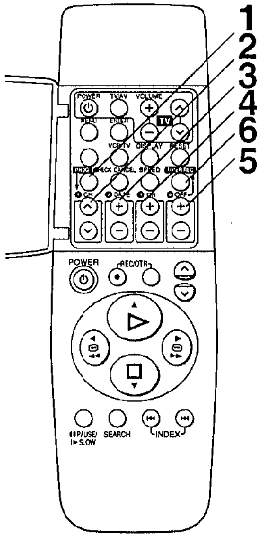
До 8 программ может быть записано в течение последующего месяца путем установки таймера, включая еженедельную и ежедневную запись программ.

Подготовка

- Вставьте видеокассету с неповрежденным язычком предохранения записи от стирания.
- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Включите ВКМ.
- Убедитесь в том, что переключатель системы установлен должным образом. См. стр. 55.

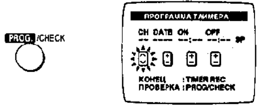
Пример:

Программная позиция (канал);	2
Дата;	27 октября
Начальное время;	20:02
Время окончания;	21:30
(настоящая дата: 16 октября)	

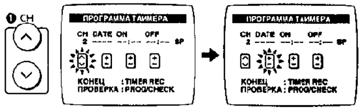

1
2
3
4
6
5
POWER
TV/AV
VOLUME
TV
VCR/TV
DISPLAY
RESET
PROG./CHECK
CANCEL
SPEED
TIMER REC
CH
DATE
ON
OFF
REC/OTR
PAUSE/ I►SLOW
SEARCH
INDEX

Операции **Отображение информации на экране телевизора**

1 Нажмите кнопку **PROG./CHECK.**

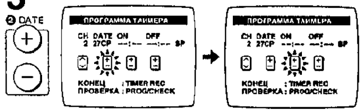

PROG./CHECK
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

2 Установите **программную позицию** (канал) “2”.


❶ CH
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

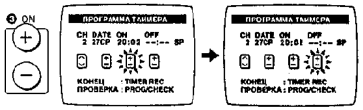
- Следующий пункт будет мигать приблизительно через 2 секунды.

3 Установите **дату** “27СР”.

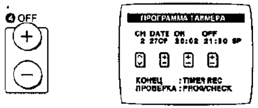

❷ DATE
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 27CP SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

4 Установите **начальное время** “20:02”.

- При удерживании кнопки нажатой индикация изменяется с 30-минутными шагами.


❸ ON
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 27CP 20:02 SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

5 Установите **время окончания** “21:30”.


❹ OFF
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 27CP 20:02 21:30 SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

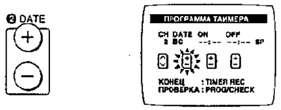
6 Для активизации записи по таймеру нажмите кнопку **TIMER REC.**

- Появляется сообщение “ПРОГРАММА ЗАВЕРШЕНА.”.
- Если не нажата кнопка **TIMER REC**, ВКМ перейдет в режим готовности к записи по таймеру через приблизительно 1 минуту.

Запись по еженедельному таймеру

В пункте 3 выберите желаемый день нажатием кнопки **DATE –**.

Например, ВС (воскресенье) **Отображение информации на экране телевизора**


❷ DATE
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 ВС SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

(ВС=воскресенье, ПН=понедельник, ВТ=вторник, СР=среда, ЧТ=четверг, ПТ=пятница, СБ=суббота)

Запись по ежедневному таймеру

Для этой функции таймера могут быть выбраны несколько дневных групп.

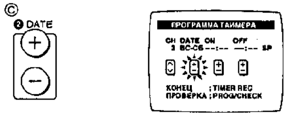
Ⓐ Ежедневная запись с понедельника до пятницы (ПН–ПТ)

Ⓑ Ежедневная запись с понедельника до субботы (ПН–СБ)

Ⓒ Ежедневная запись с воскресенья до субботы (ВС–СБ)

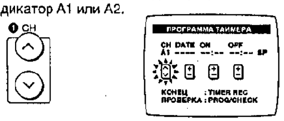
В пункте 3 выберите желаемые дни нажатием кнопки **DATE –**.

Например, Ⓒ


❷ DATE
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 ВС-СБ SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

Запись по таймеру от внешнего источника сигнала

Если запись по таймеру осуществляется от устройства, подсоединенного к входным гнездам аудио/видео, выберите в пункте 2 для программной позиции индикатор A1 или A2.

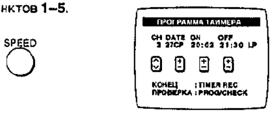

❶ CH
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
A1 SP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

Последовательная установка других программ таймера

Повторите пункты 1–6.

Выбор желаемой скорости ленты

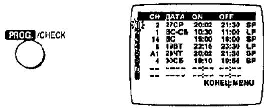
Нажмите кнопку **SPEED** для выполнения выбора в любом из пунктов **1–5**.


SPEED
ПРОГРАММА ТАЙМЕРА
CH DATE ON OFF
2 27CP 20:02 21:30 LP
КОНЕЦ : TIMER REC
ПРОВЕРКА : PROG/CHECK

Проверка программы таймера

- ВКМ должен быть включен, или высвечивается индикатор записи по таймеру “⌚”.
- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.

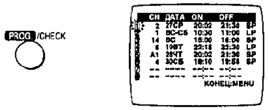
1 Нажмите кнопку **PROG./CHECK** дважды.


PROG./CHECK
CH ДАТА ON OFF
2 27CP 20:02 21:30 SP
1 ВС-СБ 10:30 11:00 LP
14 ВС 15:00 16:00 SP
5 19ВТ 22:15 23:30 LP
A1 28ЧТ 20:02 21:30 SP
4 30СБ 19:10 19:55 SP
КОНЕЦ:MENU

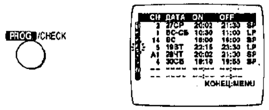
Отмена программы таймера

- ВКМ должен быть включен, либо установлен в режим готовности к записи по таймеру.
- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.

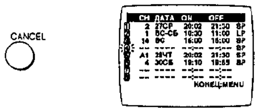
1 Нажмите кнопку **PROG./CHECK** дважды.


PROG./CHECK
CH ДАТА ON OFF
КОНЕЦ:MENU

2 Нажимайте кнопку **PROG./CHECK** повторно до тех пор, пока желаемый номер программы таймера не будет высвечиваться и гаснуть.


PROG./CHECK
CH ДАТА ON OFF
КОНЕЦ:MENU

3 Нажмите кнопку **CANCEL**.


CANCEL
CH ДАТА ON OFF
КОНЕЦ:MENU

Примечание:

Если запись по таймеру не выполняется до конца (вследствие недостаточной длины ленты или отмены пользователем), данные программы записи по таймеру будут стерты из памяти через два дня к 4 часам утра.

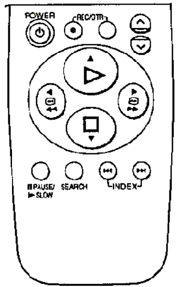
Однако если в это время активизирована функция записи по таймеру, данные программы записи по таймеру будут стерты в 4 часа утра на следующий день.

Функции поиска

Поиск программ, записанных по таймеру (Поиск по программному списку)

Поиск, используя функцию поиска по программному списку
Если с помощью этого ВКМ записываются программы по таймеру, видеомагнитофон сохраняет информацию о программировании, и программы выбираются и отыскиваются функцией поиска по программному списку.

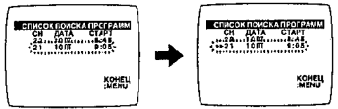
Подготовка
- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Отключите состояние готовности для записи программ по таймеру.



Высвечивание экрана СПИСОК ПОИСКА ПРОГРАММ

Нажмите кнопку **SEARCH**.

Отображение информации на экране телевизора



(Во время поиска)

- На экране СПИСОК ПОИСКА ПРОГРАММ высвечивается информация о программах, записанных по таймеру на данной видеокассете в той последовательности, в которой программы были записаны.
- Если в течение 3 или более секунд не выполняются никакие операции, начинается поиск последней программы, записанной по таймеру.
- После завершения поиска воспроизведение начинается с найденного положения на ленте.

Поиск других программ

Нажмите кнопку **SEARCH** несколько раз для выбора программы, которую следует отыскать.

- Когда кнопка **SEARCH** нажата один раз, выбирается программа, которая была записана по таймеру последней. При каждом последовательном нажатии кнопки **SEARCH** выбирается предыдущая программа (или выше по списку, показанному на экране).
- Если кнопка **SEARCH** нажата снова, когда выбрана верхняя программа, будет выбрана нижняя программа.
- Нажатием кнопки **SEARCH** может быть выбрана другая программа даже после того, как начался поиск.

Для остановки поиска в любое время

Нажмите кнопку **MENU** и очистите экран СПИСОК ПОИСКА ПРОГРАММ.

Примечания:
- Эта функция не работает во время режима готовности к записи по таймеру.
- Эта функция работает только для видеокассет, содержащих программы, записанные по таймеру.
- Так как эта функция работает только для видеокассеты, вставленной в настоящее время, **вся информация программного списка будет стерта, когда видеокассета вытолкнута или заменена на другую.** В таких случаях используйте систему поиска по индексации VHS или функцию ускоренного сканирования начал записанных программ. (См. стр. 64.)
- Функция поиска по программному списку работает неправильно, когда записанные программы продолжаются в течение 15 или менее минут.
- Убедитесь в том, что в меню отображения информации на экране телевизора **(ЭКРАННОЕ МЕНЮ)** позиция **ВЫБОР ЛЕНТЫ** для индикации **ОПЦИЯ** выбрана правильно, так как в противном случае эта функция будет работать неправильно.
- Когда во время воспроизведения нажата кнопка **SEARCH**, воспроизведение немедленно останавливается, и появляется экран СПИСОК ПОИСКА ПРОГРАММ.
- На экране СПИСОК ПОИСКА ПРОГРАММ может высвечиваться до 8 программ. Если таймер используется для записи более чем 9 программ, самая старая программа будет удалена с экрана СПИСОК ПОИСКА ПРОГРАММ, и будет введена и высвечена новая программа, записанная по таймеру.
- Эта функция может работать неправильно в зависимости от позиции ленты, когда Вы нажимаете кнопку **SEARCH**.
- Эта функция может работать неправильно, когда, например, Вы попытаетесь записать программу на место другой программы, которая записана по таймеру на том же участке ленты.

Для нахождения начала каждой записи (Система поиска по индексации VHS)

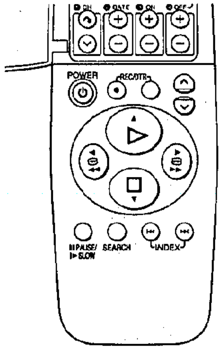
Пример:
Поиск 2-го записанного сегмента в прямом направлении.
Нажмите кнопку **INDEX ▶▶I** дважды.
(Эта операция выполняется в то время, когда ВКМ находится в режиме остановки или режиме нормального воспроизведения.)

Символы дисплея

- После нахождения определенного записанного сегмента воспроизведение начинается автоматически.
- Для обратного направления нажмите кнопку **INDEX I◀◀**.
- До 20 сигналов индексации может быть найдено в обоих направлениях.
- При нажатии противоположной кнопки **INDEX** номер будет уменьшен на 1.
- Цифра на дисплее уменьшается на 1 при каждом обнаружении сигнала индексации.

Запись сигналов индексации
Сигналы индексации записываются в следующих случаях.
- Если запись инициируется нажатием кнопки **REC/OTR.**
- Если активизирована запись по таймеру.

Примечание:
Функция поиска по индексации может работать правильно, только если сигналы индексации разделены во времени по крайней мере на 5 минут.



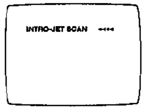
Поиск во время проверки содержания видеокассеты (Ускоренное сканирование начал записанных программ)

Приблизительные начала каждой записанной программы воспроизводятся последовательно на высокой скорости так, что возможно простое нахождение желаемой для просмотра программы.

Подготовка
- Убедитесь в том, что телевизор включен, и выбран желаемый канал просмотра изображения с видеомагнитофона.
- Вставьте предварительно записанную видеокассету.

1 Нажмите кнопку **SEARCH**.
[Эта операция выполняется в то время, когда ВКМ выключен (OFF), или ВКМ находится в режиме остановки или нормального воспроизведения во включенном состоянии (ON).]

Отображение информации на экране телевизора

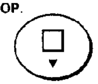


- Лента перематывается на начало и воспроизводится на высокой скорости в течение около 10 секунд, последовательно отыскиваются сигналы VISS, (Система поиска по индексации VHS), и при каждом нахождении сигналов лента воспроизводится на высокой скорости в прямом направлении в течение приблизительно 10 секунд.

2 Когда достигается желаемая для просмотра программа, нажмите кнопку **PLAY**.

- Сейчас начинается нормальное воспроизведение.

Для остановки операции в любое время
Нажмите кнопку **STOP**.



Примечание:
- Эта функция может работать неправильно, когда записанные программы продолжаются в течение 15 минут или менее.
- Когда запись по таймеру закончена, и видеокассета не вытолкнута и не заменена на другую, а затем нажата кнопка **SEARCH**, функция ускоренного сканирования начал записанных программ не будет работать, а вместо неё будет работать функция поиска по программному списку.

Редактирование

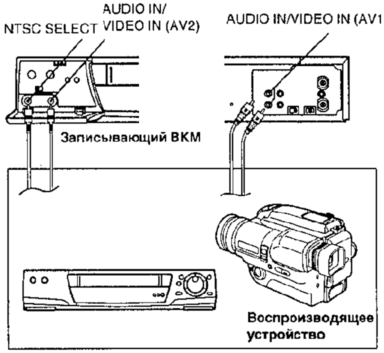
Редактирование сборкой

Эта функция может использоваться для создания отредактированной ленты путем перезаписи из нескольких других записей или источников видеосигнала.

Новая сцена может быть добавлена к концу предыдущей.

Подготовка

- Подключите видеокамеру или другой видеомагнитофон к данному ВКМ, как показано на рисунке.
- Вставьте записанную кассету с неповрежденным язычком предохранения записи от стирания.
- Выберите требуемый видеоисточник нажатием кнопки ∨ ∧ до установки режима A1 или A2.
  A1: При подсоединении внешнего источника к гнездам AV1 (AUDIO IN/VIDEO IN).
  A2: При подсоединении внешнего источника к гнездам AV2 (AUDIO IN/VIDEO IN) на передней панели.
- Убедитесь в том, что переключатель системы установлен должным образом. См. стр. 55.

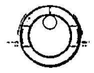


Операции

1 Нажмите кнопку **PAUSE/STILL** на записывающем ВКМ.

PAUSE/STILL

2 Произведите поиск окончания предыдущей записи.



3 Нажмите кнопку **REC/OTR** для переключения ВКМ из режима паузы в режим паузы при записи.

●REC/OTR

4 Начните новую запись повторным нажатием кнопки **PAUSE/STILL (PAUSE/SLOW)**.

PAUSE/STILL

5 Нажмите кнопку **STOP** для остановки записи.

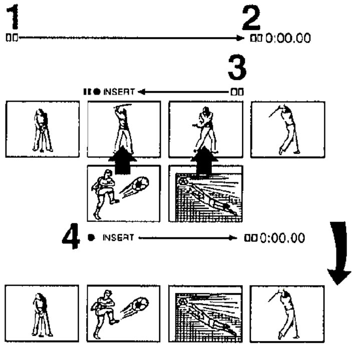
STOP

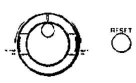
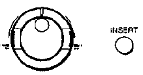
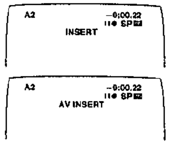
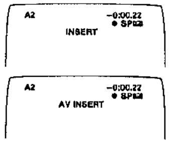
Редактирование вставкой

Этот метод используется для замещения одной сцены другой.

Подготовка

- Вставьте записанную кассету с неповрежденным язычком предохранения записи от стирания.
- Выберите требуемый видеоисточник нажатием кнопки ∨ ∧ до установки режима A1 или A2.
  A1: При подсоединении внешнего источника к гнездам AV1 (AUDIO IN/VIDEO IN).
  A2: При подсоединении внешнего источника к гнездам AV2 (AUDIO IN/VIDEO IN) на передней панели.
- Убедитесь в том, что переключатель системы установлен должным образом. См. стр. 55.



	Операции	Символы дисплея	
1	PAUSE/STILL		Нажмите кнопку **PAUSE/STILL** на записывающем ВКМ.
2	 RESET		Найдите место выхода из режима редактирования (конечную точку) и нажатием кнопки **RESET** на устройстве дистанционного управления установите счетчик на 0:00.00.
3	 INSERT	Отображениеинформации на экране телевизора 	Найдите место входа в режим редактирования (начальную точку) и нажмите кнопку **INSERT**. • Если Вы также желаете заменить и звук, нажмите также **AUDIO DUB**. (Аудио/видео редактирование вставкой)
4	PAUSE/STILL		Начните редактирование вставкой нажатием кнопки **PAUSE/STILL (PAUSE/SLOW)**. • Редактирование вставкой закончится по достижении счетчиком отметки 00:00.00.

Примечание:
Редактирование вставкой не может быть использовано на незаписанных сегментах ленты. В этом случае следует сначала использовать редактирование сборкой.

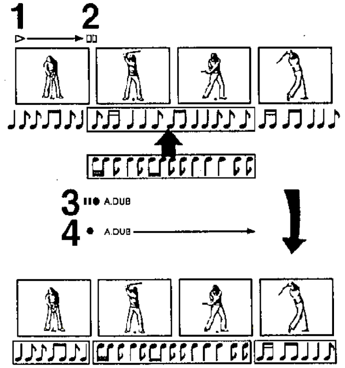
Другие функции

Аудио перезапись

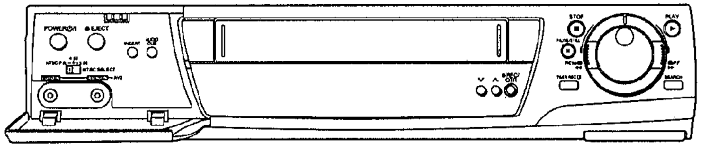
Это позволяет Вамзапи сывать новое звуковое сопровождение на предварительно записанную ленту.

Подготовка

- Вставьте записанную кассету с неповрежденным язычком предохранения записи от стирания.
- Выберите требуемый видеоисточник нажатием кнопки ∨ ∧ для установки режима A1 или A2.
  A1: При подсоединении внешнего источника к гнездам AV1 (AUDIO IN).
  A2: При подсоединении внешнего источника к гнездам AV2 (AUDIO IN) на передней панели.



Операции		Символы дисплея	
1	PLAY	▷	Найдите начальную точку для аудио перезаписи.
2	PAUSE/STILL	II	В начальной точке нажмите кнопку **PAUSE/STILL (PAUSE/SLOW)**.
3	AUDIO DUB	**Отображение информации на экране телевизора** A2 0:00.22 II● SP A. DUB	Установите ВКМ в режим аудио перезаписи нажатием кнопки **AUDIO DUB**. ●Для некоторых телевизоров при выполнении данного пункта экранное изображение может стать нестабильным или начать перемещаться по вертикали. Однако это не указывает на неполадку.
4	PAUSE/STILL	A2 0:00.22 ● SP A. DUB	Начните запись нового звукового сопровождения нажатием кнопки **PAUSE/STILL (PAUSE/SLOW)**. ●Остановите запись нажатием кнопки **STOP**.



Воспроизведение в системе NTSC

На данном ВКМ возможно воспроизведение лент, записанных в системе NTSC, с использованием телевизора системы PAL.

- Установите селектор **NTSC SELECT** в соответствии с системой цветности телевизора. См. стр. 55.
  NTSC P.B.: Для телевизоров, которые могут принимать сигналы системы PAL.
  4.43: Для телевизоров, которые могут принимать сигналы системы NTSC 4.43.
  3.58: Для телевизоров, которые могут принимать сигналы системы NTSC 3.58.

Примечание:
На некоторых телевизорах воспроизводимое изображение может передвигаться по экрану вверх или вниз: подрегулируйте это, используя регулятор V-HOLD на телевизоре. На телевизорах, не снабженных регулятором V-HOLD, коррекция этого эффекта невозможна. Воспроизводимое изображение может сокращаться по вертикали, а черные полосы могут появляться как внизу, так и вверху экрана.

- Во время обзорного воспроизведения в прямом или обратном направлении, воспроизведения стоп-кадра или замедленного воспроизведения в изображении может отсутствовать цветность. Либо возможны искажения в верхней части ТВ экрана.

Примечание только для воспроизведения в системе NTSC по телевизору системы PAL
Эта функция разработана только с целью воспроизведения лент, записанных с помощью сигналов NTSC на ТВ системы PAL. Сигнал NTSC не полностью преобразуется в сигнал системы PAL. По этой причине изображение, воспроизводимое с помощью этой функции, не может быть правильно записано на другие видеомагнитофоны.

Другие автоматические функции

Автоматическое воспроизведение

ВКМ начинает воспроизведение автоматически при вставлении видеокассеты со сломаным язычком предохранения записи от стирания.

Воспроизведение при выключенном ВКМ

Если ВКМ выключен, вставленная видеокассета может быть воспроизведена при нажатии кнопки **PLAY**.

Автоматическая перемотка

При достижении конца ленты при записи (за исключением записи по таймеру) или воспроизведении, лента автоматически перематывается на начало.

- Эта функция не будет работать во время записи одним нажатием (OTR).

Автоматическое выключение и выброс

Вставленная видеокассета может быть вытолкнута при выключенном ВКМ путем простого нажатия на кнопку **EJECT**. ВКМ вытолкнет видеокассету и снова автоматически выключится.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

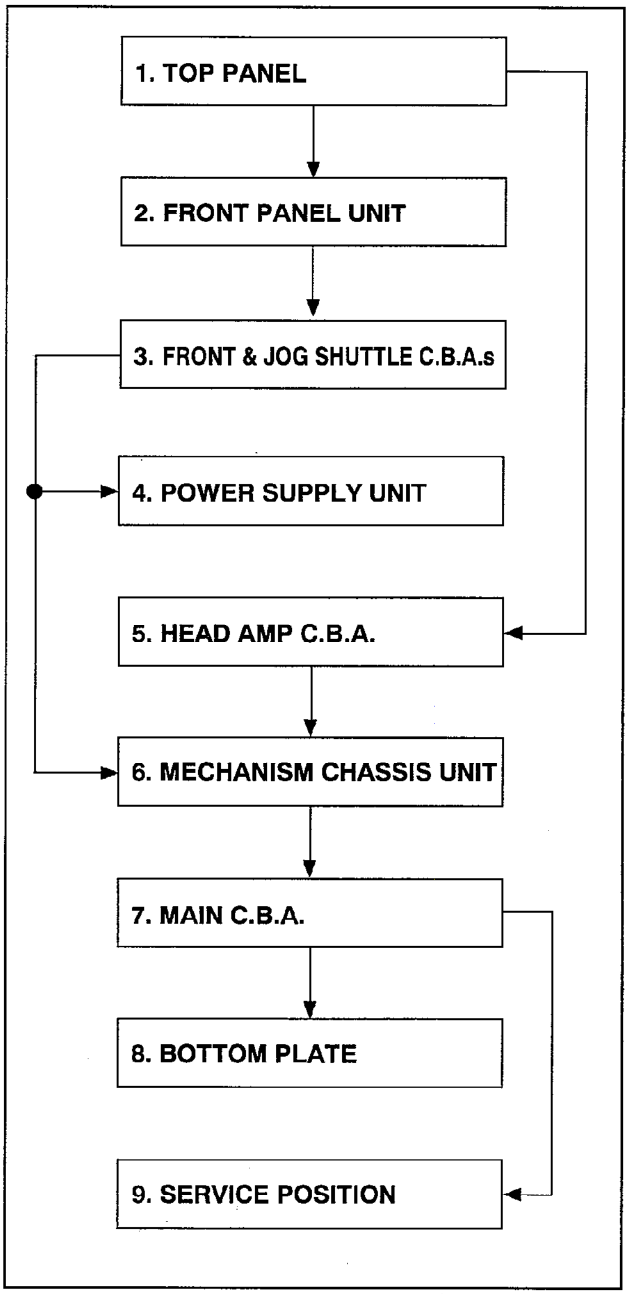

1. TOP PANEL
2. FRONT PANEL UNIT
3. FRONT & JOG SHUTTLE C.B.A.s
4. POWER SUPPLY UNIT
5. HEAD AMP C.B.A.
6. MECHANISM CHASSIS UNIT
7. MAIN C.B.A.
8. BOTTOM PLATE
9. SERVICE POSITION

Fig. D1

1. REMOVAL OF THE TOP PANEL

Remove .... 2 Screws (A)

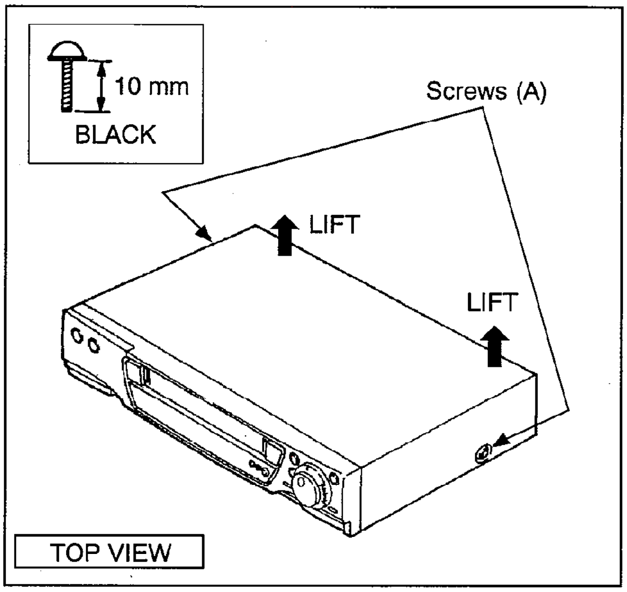

10 mm
BLACK
Screws (A)
LIFT
LIFT
TOP VIEW

Fig. D2

2. REMOVAL OF THE FRONT PANEL UNIT

Pull out.............. JOG DIAL & SHUTTLE RING
Unlock............... 7 Tabs (B)

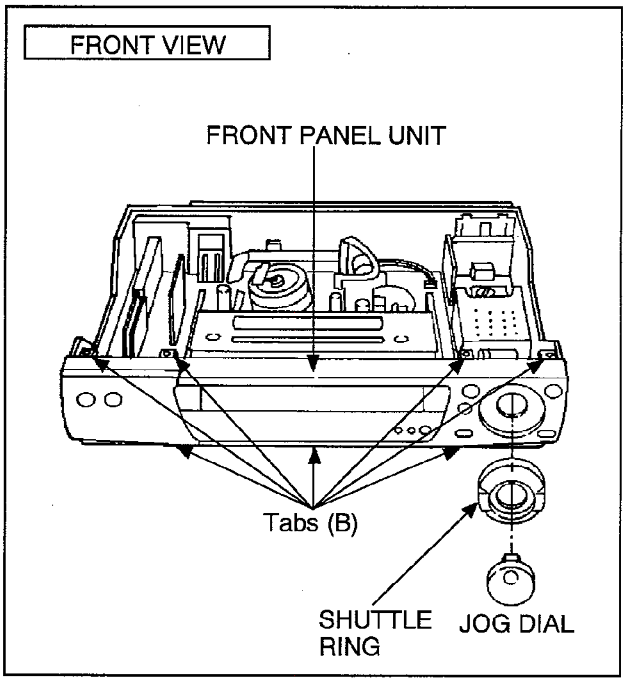

FRONT VIEW
FRONT PANEL UNIT
Tabs (B)
SHUTTLE RING
JOG DIAL

Fig. D3

3. REMOVAL OF THE FRONT & JOG SHUTTLE C.B.A.s

REMOVAL OF THE FRONT C.B.A.
Unlock .... 2 Tabs (C)
Disconnect......... P6501 (D)

REMOVAL OF THE JOG SHUTTLE C.B.A.
Unlock .... 2 Tabs (E)
Disconnect......... P7502 (F)

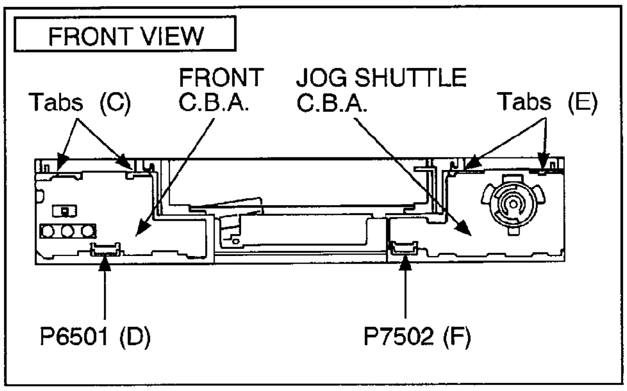

FRONT VIEW
FRONT C.B.A.
JOG SHUTTLE C.B.A.
Tabs (C)
Tabs (E)
P6501 (D)
P7502 (F)

Fig. D4

4. REMOVAL OF THE POWER SUPPLY UNIT

Unlock .... 6 Tabs (G)
Disconnect........ Bridge connector (H)

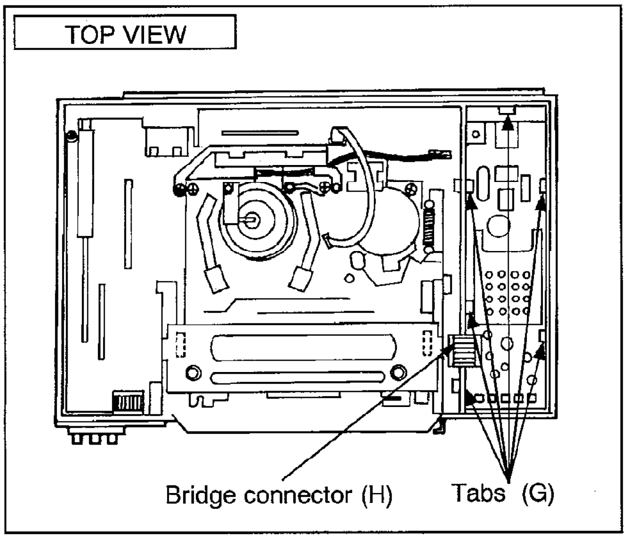

TOP VIEW
Bridge connector (H)
Tabs (G)

Fig. D5

5. REMOVAL OF THE HEAD AMP C.B.A.

Remove .... Screw (I)
Remove .... Screw (J)
Disconnect........ 3 Connectors (K)

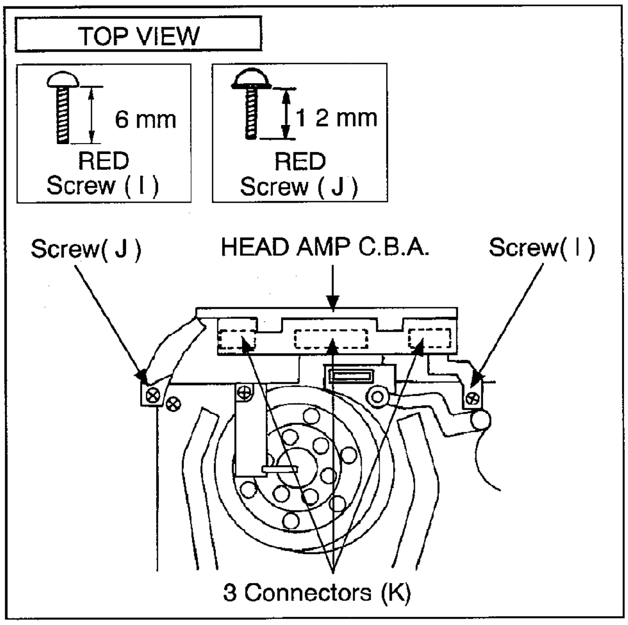

TOP VIEW
6 mm
RED
Screw (I)
1 2 mm
RED
Screw (J)
Screw(J)
HEAD AMP C.B.A.
Screw(I)
3 Connectors (K)

Fig. D6

6. REMOVAL OF THE MECHANISM CHASSIS UNIT

Remove .... 2 Screws (L) (HD670BD)
3 Screws (L) (SD570AM/EU)
Remove .... 2 Screws (M)

Note: Before removing 2 screws in the front, keep pressing 2 stoppers on Cassette Holder Plate and Press Cassette Holder Plate to the rear.
(or insert a cassette tape and press it to the rear until you will be able to remove 2 screws in the front when remove it.)

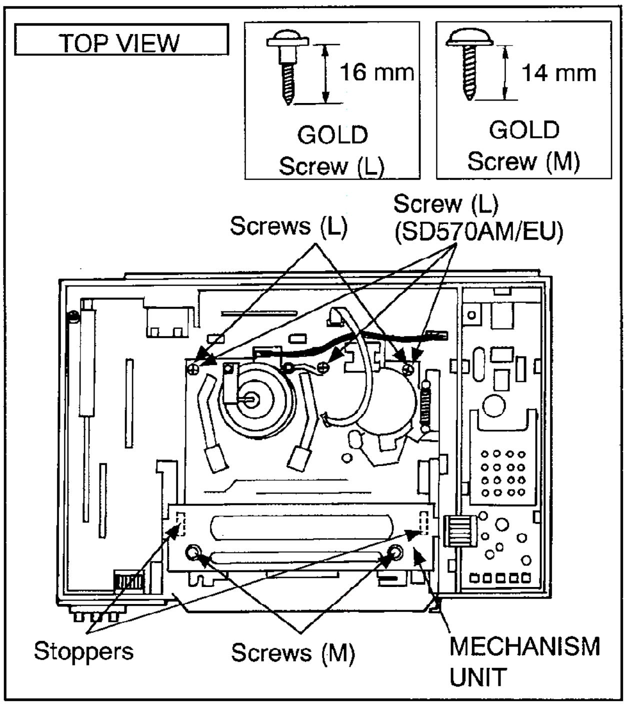

TOP VIEW
16 mm
GOLD
Screw (L)
14 mm
GOLD
Screw (M)
Screws (L)
Screw (L)
(SD570AM/EU)
Stoppers
Screws (M)
MECHANISM
UNIT

Fig. D7

7. REMOVAL OF THE MAIN C.B.A.

Disconnect........ Bridge Connector (H)
Remove .... Screw (N)
Unlock .... 7 Tabs (O)

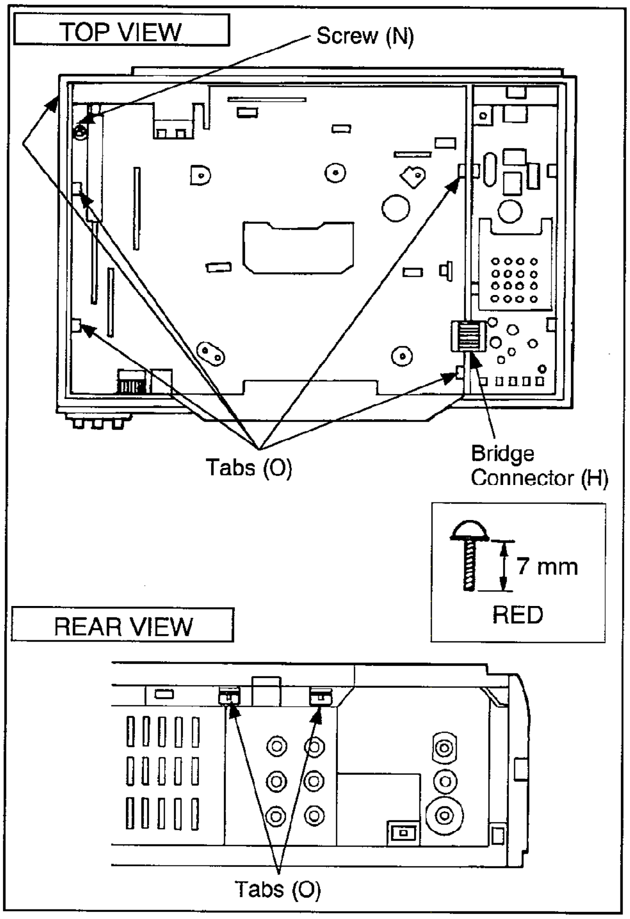

TOP VIEW
Screw (N)
Tabs (O)
Bridge Connector (H)
7 mm
RED
REAR VIEW
Tabs (O)

Fig. D8

8. REMOVAL OF THE BOTTOM PLATE

Unlock .... 10 Tabs (P)

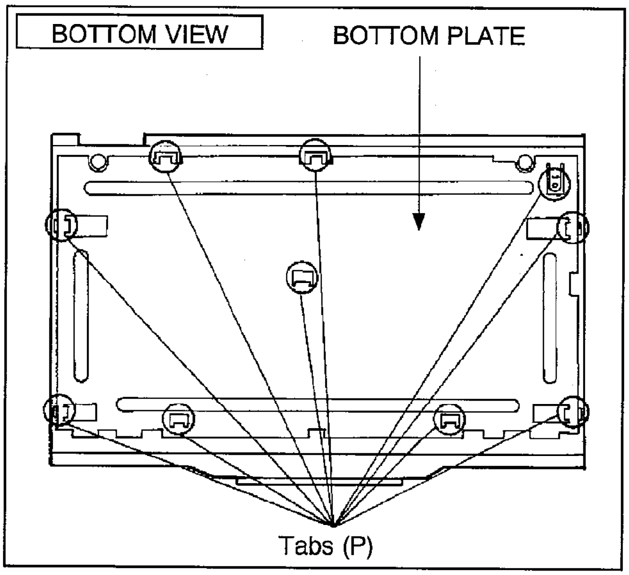

BOTTOM VIEW
BOTTOM PLATE
Tabs (P)

Fig. D9

9. SERVICE POSITION

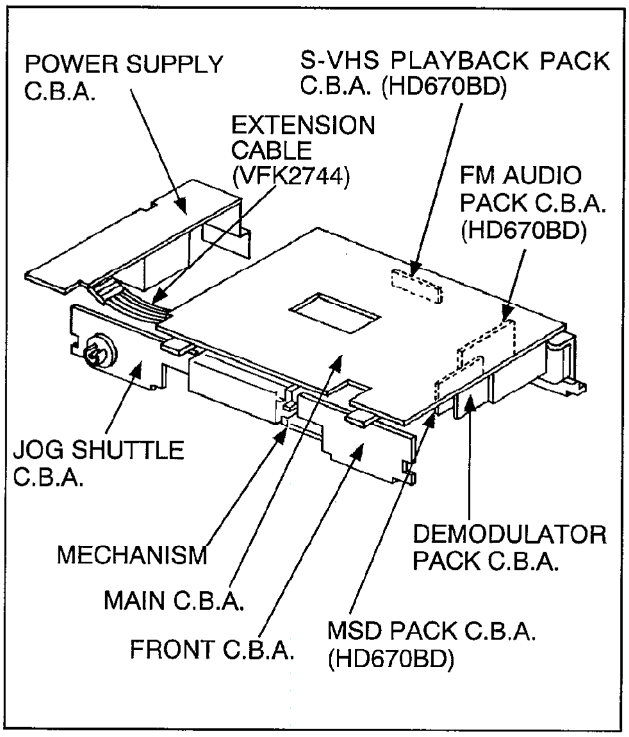

POWER SUPPLY C.B.A.
S-VHS PLAYBACK PACK C.B.A. (HD670BD)
EXTENSION CABLE (VFK2744)
FM AUDIO PACK C.B.A. (HD670BD)
JOG SHUTTLE C.B.A.
DEMODULATOR PACK C.B.A.
MECHANISM
MAIN C.B.A.
MSD PACK C.B.A. (HD670BD)
FRONT C.B.A.

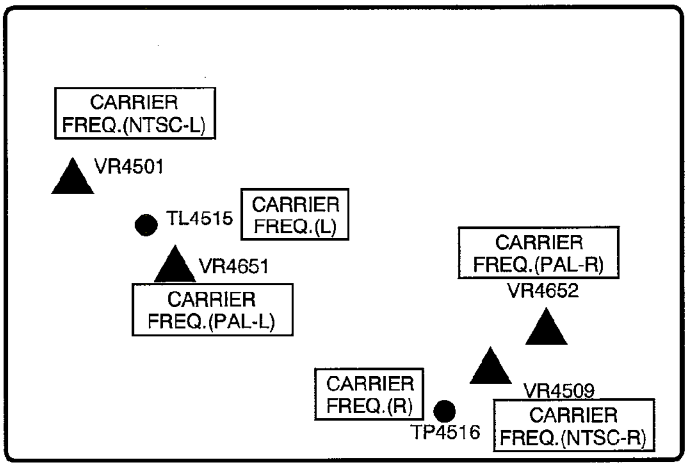
Fig. D10

2-2. MECHANICAL ADJUSTMENT PROCEDURES

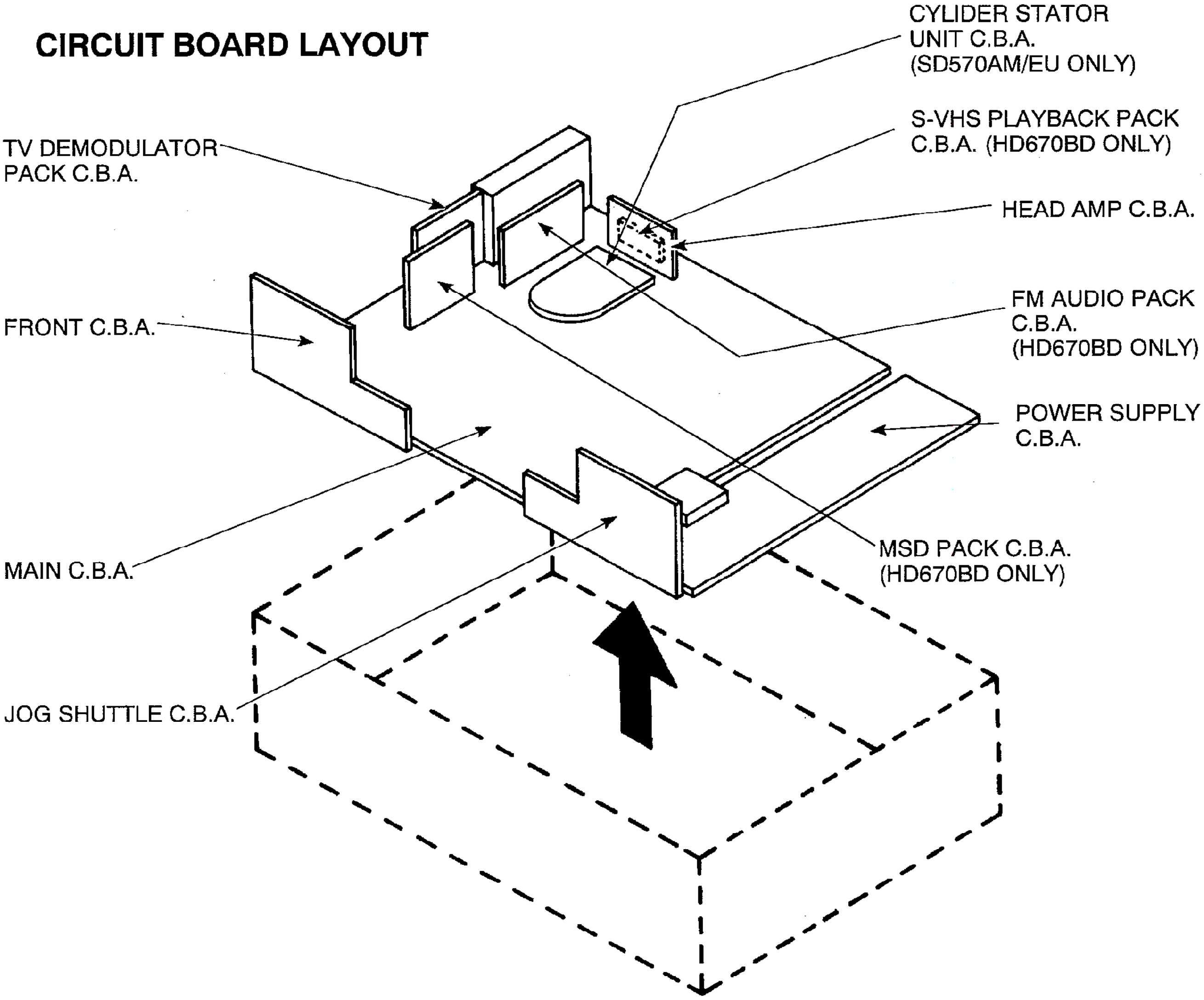
Refer to the Service Manual for Z Mechanism Chassis.
(Order No.: VRD9612M129)

LOCATION OF TEST POINTS & CONTROLS

FM AUDIO PACK C.B.A. (NV-HD670BD ONLY)


CARRIER FREQ.(NTSC-L)
VR4501
TL4515
CARRIER FREQ.(L)
VR4651
CARRIER FREQ.(PAL-L)
CARRIER FREQ.(PAL-R)
VR4652
CARRIER FREQ.(R)
VR4509
TP4516
CARRIER FREQ.(NTSC-R)

CIRCUIT BOARD LAYOUT


CYLIDER STATOR UNIT C.B.A. (SD570AM/EU ONLY)
TV DEMODULATOR PACK C.B.A.
S-VHS PLAYBACK PACK C.B.A. (HD670BD ONLY)
HEAD AMP C.B.A.
FRONT C.B.A.
FM AUDIO PACK C.B.A. (HD670BD ONLY)
POWER SUPPLY C.B.A.
MAIN C.B.A.
MSD PACK C.B.A. (HD670BD ONLY)
JOG SHUTTLE C.B.A.

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

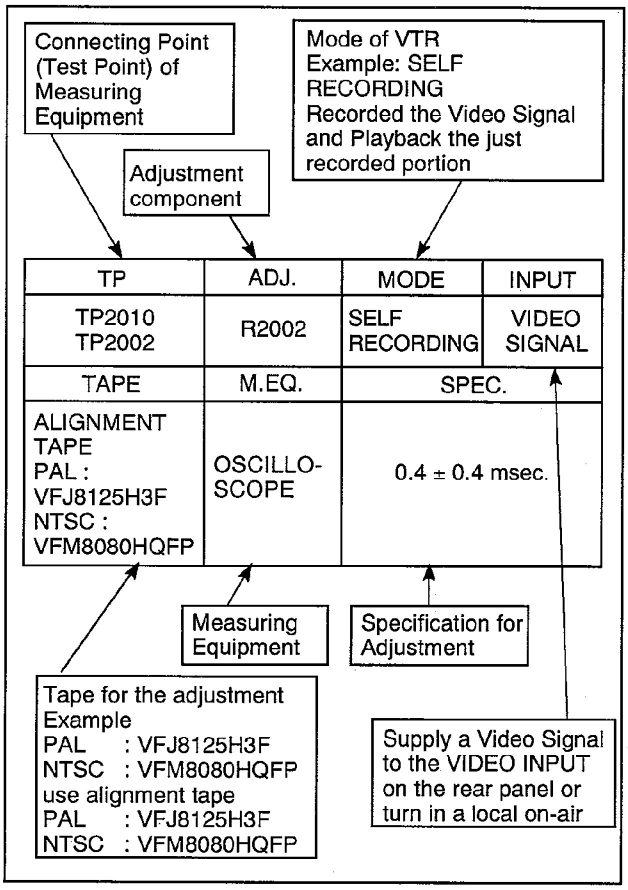
This section provides complete adjustment procedures required for electric circuits of VCR.

2-3-1. TEST EQUIPMENT

To perform electrical adjustments following equipment is required.

1. Dual-Trace Oscilloscope. (More than 35 MHz)
    Voltage Range : 0.005 – 5 V / div
    Frequency Range : DC – 35 MHz
    Probes : 10:1
2. Frequency Counter.
    Frequency Range : 0 – 10 MHz
    Probes : 1:1
3. Universal Counter.
4. Video Sweep Generator.
5. Sine Wave Generator.
6. Video Pattern Generator.
7. VHS Alignment Tape. (PAL : VFJ8125H3F)
    (NTSC : VFM8080HQFP)
8. VHS Blank Tape.
9. Plastic Tip Driver.
10. Vacuum Tube Volt Meter (V.T.V.M)
11. Monitor
12. Digital Voltmeter.
13. Power Supply.

2-3-2. HOW TO READ ADJUSTMENT PROCEDURES



Connecting Point (Test Point) of Measuring Equipment

Adjustment component

Mode of VTR
Example: SELF RECORDING
Recorded the Video Signal and Playback the just recorded portion

TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M.EQ.**	**SPEC.**	
ALIGNMENT TAPE PAL : VFJ8125H3F NTSC : VFM8080HQFP	OSCILLO-SCOPE	0.4 ± 0.4 msec.	

Measuring Equipment

Specification for Adjustment

Tape for the adjustment
Example
PAL : VFJ8125H3F
NTSC : VFM8080HQFP
use alignment tape
PAL : VFJ8125H3F
NTSC : VFM8080HQFP

Supply a Video Signal to the VIDEO INPUT on the rear panel or turn in a local on-air

Fig.E1

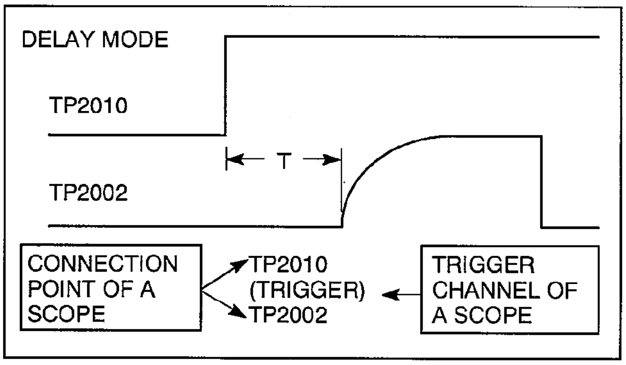


Fig.E2

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

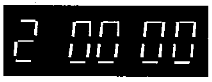
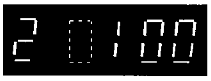
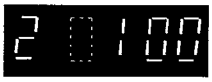
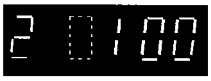
PROCEDURES	DISPLAY
1. To set Service Mode 2, turn the Shuttle Ring to FF and press EJECT button three times.	
2. Press EJECT button for more than three seconds. Indicate 1 in the digit of minute.	
3. Insert VHS Alignment Tape. (NTSC : VFM8080HQFP) (PAL : VFJ8125H3F)	
4. This adjustment is automatically started after VCR goes PLAY mode. (During the adjustment, the picture can be observed on the monitor.)	
5. When this adjustment is terminated, the following operation will be activated. Adjustment completed : The tape will be ejected. Adjustment incompleted : Indicates " F20 " Check the Servo/System Control circuit and Cylinder unit.	
6. To release Service Mode 2, turn the Shuttle Ring to FF and press EJECT button sixth times.	

Fig.E3

2-3-4. CARRIER FREQUENCY ADJUSTMENT (HD670BD)

TP	ADJ.	MODE	INPUT
TL4515 (L) TL4516 (R)	VR4501 (NTSC-L) VR4509 (NTSC-R) VR4651 (PAL-L) VR4652 (PAL-R)	SELF RECORDING or STOP	
TAPE	**M.EQ.**	**SPEC.**	
BLANK TAPE	FREQUENCY COUNTER	NTSC-L: 1.3 ± 0.003(MHz) NTSC-R: 1.7 ± 0.003(MHz) PAL-L : 1.4 ± 0.003(MHz) PAL-R : 1.8 ± 0.003(MHz)	

Note: 1. When adjusting the NTSC mode, supply NTSC video signal (colour bar).
2. When adjusting the PAL mode, supply PAL video signal (colour bar).

ГЛАВА 2
ПРОЦЕДУРЫ РЕГУЛИРОВКИ

2-1. МЕТОД РАЗБОРКИ

2-1-1. БЛОК-СХЕМА РАЗБОРКИ

В этой блок-схеме указана последовательность разборки деталей корпуса и печатных плат, чтобы определить необходимые пункты для обслуживания. Повторную сборку выполняйте в обратной последовательности разборки.

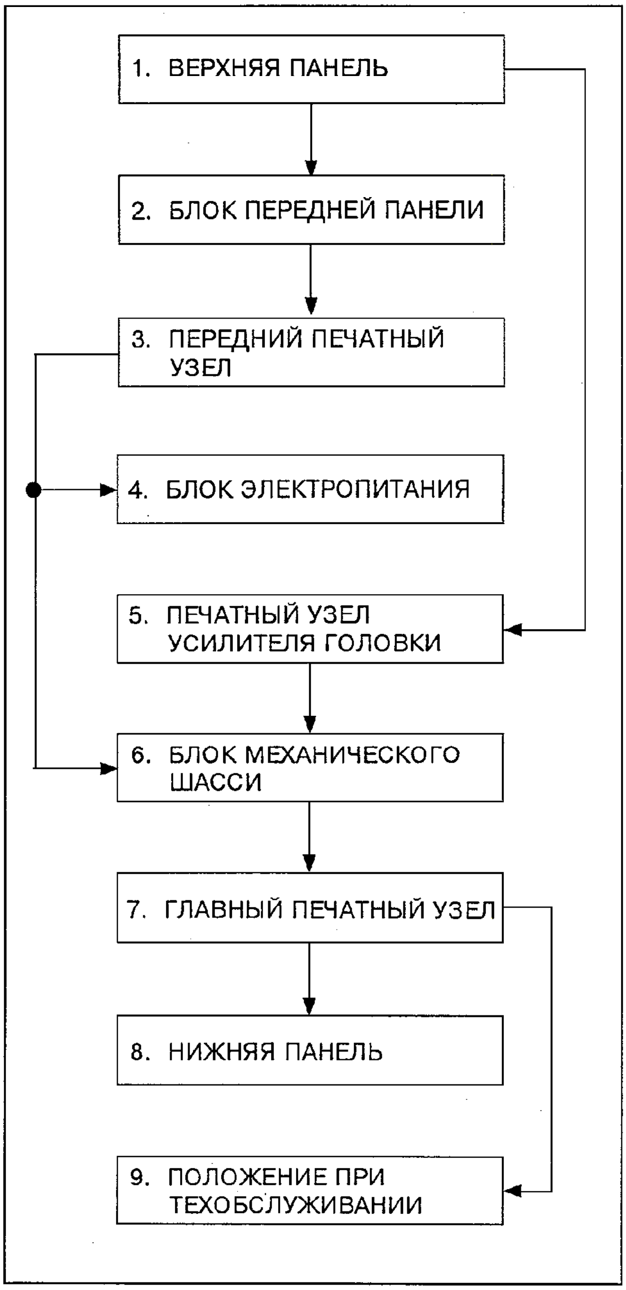

1. ВЕРХНЯЯ ПАНЕЛЬ
2. БЛОК ПЕРЕДНЕЙ ПАНЕЛИ
3. ПЕРЕДНИЙ ПЕЧАТНЫЙ УЗЕЛ
4. БЛОК ЭЛЕКТРОПИТАНИЯ
5. ПЕЧАТНЫЙ УЗЕЛ УСИЛИТЕЛЯ ГОЛОВКИ
6. БЛОК МЕХАНИЧЕСКОГО ШАССИ
7. ГЛАВНЫЙ ПЕЧАТНЫЙ УЗЕЛ
8. НИЖНЯЯ ПАНЕЛЬ
9. ПОЛОЖЕНИЕ ПРИ ТЕХОБСЛУЖИВАНИИ

Схема D1

1. СНЯТИЕ ВЕРХНЕЙ ПАНЕЛИ

Снимите .... 2 винта (А)

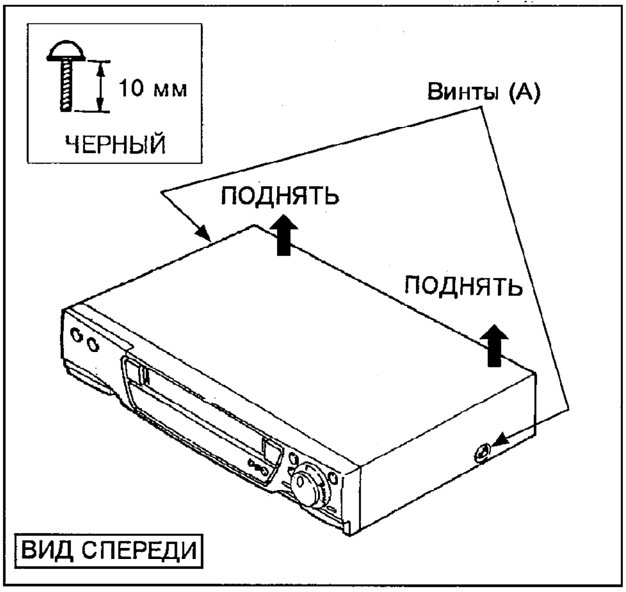

10 мм
ЧЕРНЫЙ
Винты (А)
ПОДНЯТЬ
ПОДНЯТЬ
ВИД СПЕРЕДИ

Рис. D2

2. СНЯТИЕ БЛОКА ПЕРЕДНЕЙ ПАНЕЛИ

Вытяните .... Поворотную ручку и челночное кольцо
Расцепите .... 7 пластин (В)

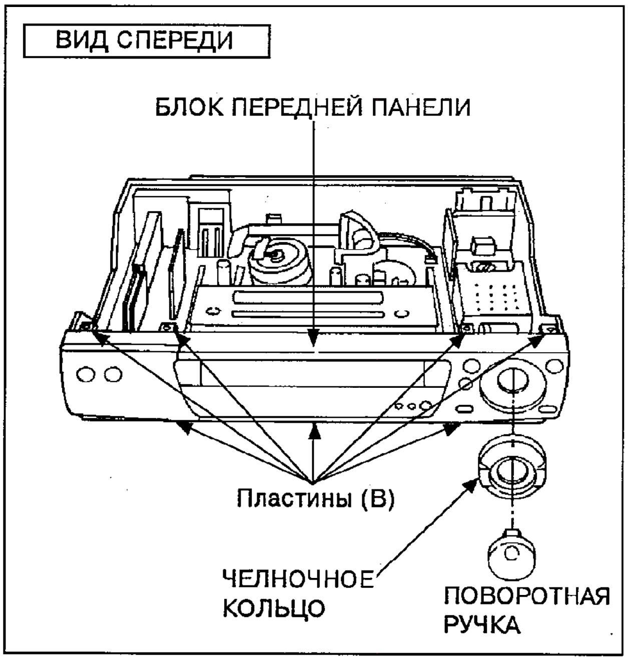

ВИД СПЕРЕДИ
БЛОК ПЕРЕДНЕЙ ПАНЕЛИ
Пластины (В)
ЧЕЛНОЧНОЕ КОЛЬЦО
ПОВОРОТНАЯ РУЧКА

Рис. D3

3 СНЯТИЕ ПЕРЕДНЕГО ПЕЧАТНОГО УЗЛА И ПЕЧАТНОГО УЗЛА ПОВОРОТНОЙ РУЧКИ

СНЯТИЕ ПЕРЕДНЕГО ПЕЧАТНОГО УЗЛА
Расцепите .... 2 пластины (C).
Отсоедините ...... P6501(D)

СНЯТИЕ ПЕЧАТНОГО УЗЛА ПОВОРОТНОЙ РУЧКИ
Расцепите .... 2 пластины (E).
Отсоедините ...... P7502(F)

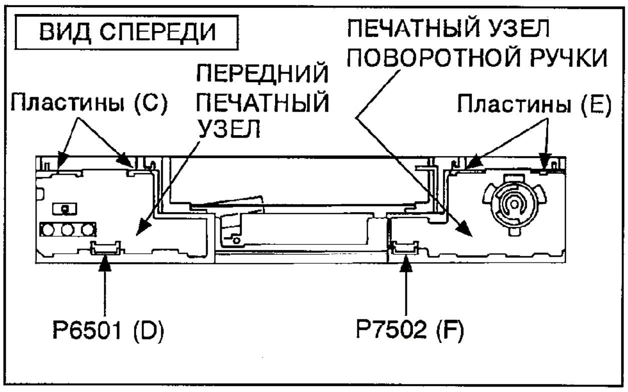

ВИД СПЕРЕДИ
ПЕЧАТНЫЙ УЗЕЛ ПОВОРОТНОЙ РУЧКИ
ПЕРЕДНИЙ ПЕЧАТНЫЙ УЗЕЛ
Пластины (C)
Пластины (E)
P6501 (D)
P7502 (F)

Рис. D4

4. СНЯТИЕ БЛОКА ЭЛЕКТРОПИТАНИЯ

Расцепите.......... 6 пластин (G).
Отсоедините ..... Мостовой соединитель (H)

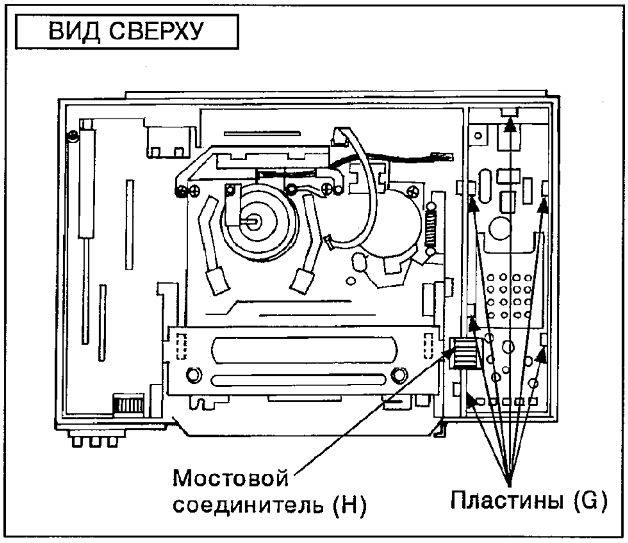

ВИД СВЕРХУ
Мостовой соединитель (H)
Пластины (G)

Рис. D5

5. СНЯТИЕ ПЕЧАТНОГО УЗЛА УСИЛИТЕЛЯ ГОЛОВКИ

Снимите .... Винт (I)
Снимите .... Винт (J)
Отсоедините .... 3 разъема (K)

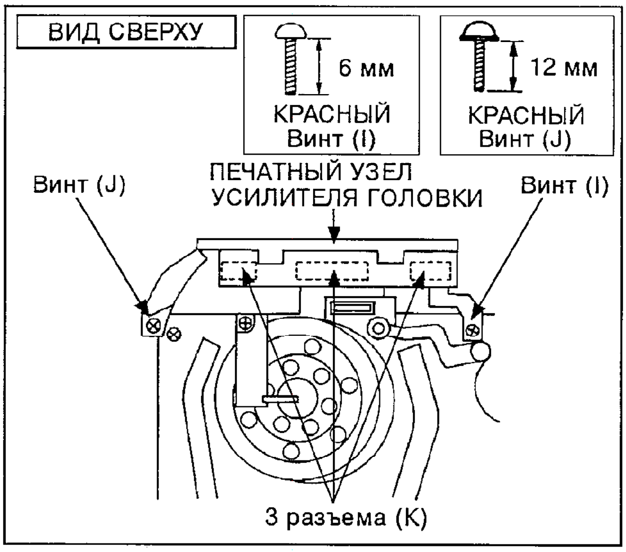

ВИД СВЕРХУ
6 мм
КРАСНЫЙ Винт (I)
12 мм
КРАСНЫЙ Винт (J)
Винт (J)
ПЕЧАТНЫЙ УЗЕЛ УСИЛИТЕЛЯ ГОЛОВКИ
Винт (I)
3 разъема (K)

Рис. D6

6. СНЯТИЕ БЛОКА РАМЫ МЕХАНИЗМА

Снимите .... 2 винта (L) (HD670BD)
3 винта (L) (SD570AM/EU)
Снимите .... 2 винта (M)

Примечание: Перед снятием 2 винтов, расположенных спереди, удерживая в нажатом положении два стопора, расположенные на пластине держателя кассеты, нажмите на пластину держателя кассеты в обратном направление.
(или вставьте кассету с лентой и прижмите ее к задней стенке так, чтобы Вы могли снять 2 винта спереди.)

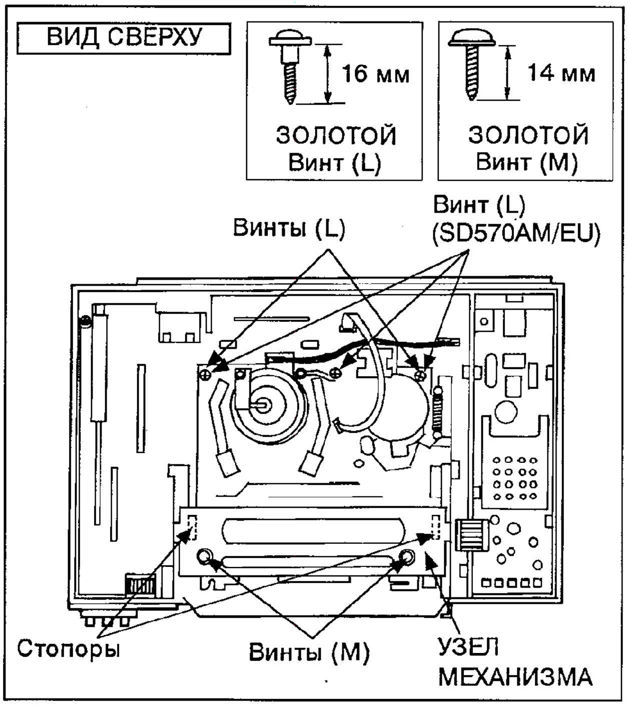

ВИД СВЕРХУ
16 мм
ЗОЛОТОЙ Винт (L)
14 мм
ЗОЛОТОЙ Винт (M)
Винты (L)
Винт (L) (SD570AM/EU)
Стопоры
Винты (M)
УЗЕЛ МЕХАНИЗМА

Рис. D7

7. СНЯТИЕ ГЛАВНОГО ПЕЧАТНОГО УЗЛА

Отсоедините ...... Мостовой соединитель (H)
Снимите .... Винт (N)
Разблокируйте .... 7 пластин (O)

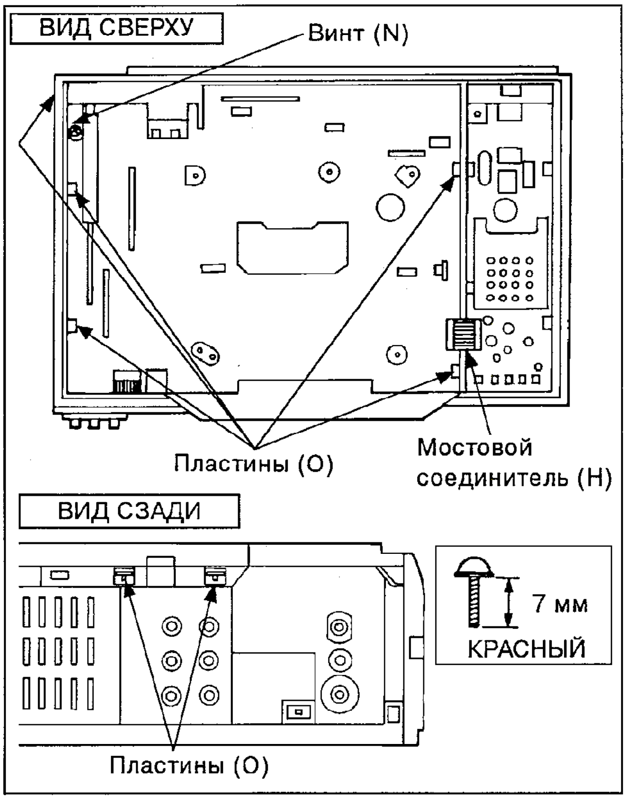

ВИД СВЕРХУ
Винт (N)
Пластины (O)
Мостовой соединитель (H)
ВИД СЗАДИ
7 мм
КРАСНЫЙ
Пластины (O)

Рис. D8

8. СНЯТИЕ НИЖНЕЙ ПАНЕЛИ

Разблокируйте ..... 10 пластин (P)

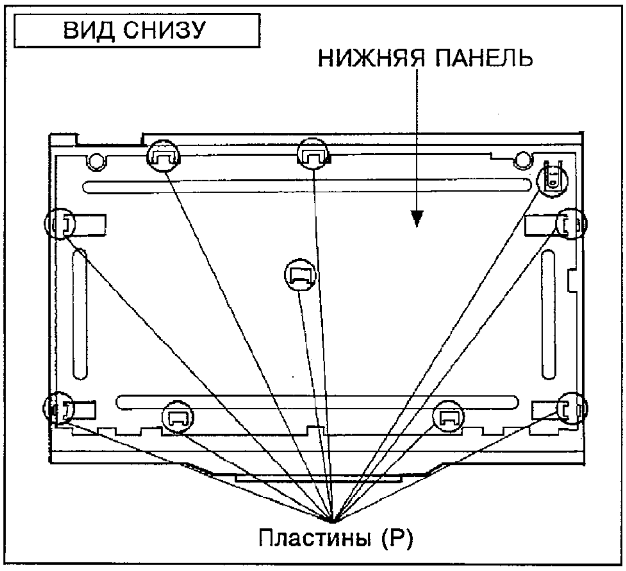

ВИД СНИЗУ
НИЖНЯЯ ПАНЕЛЬ
Пластины (P)

Рис. D9

9. ПОЛОЖЕНИЕ ПРИ ОБСЛУЖИВАНИИ

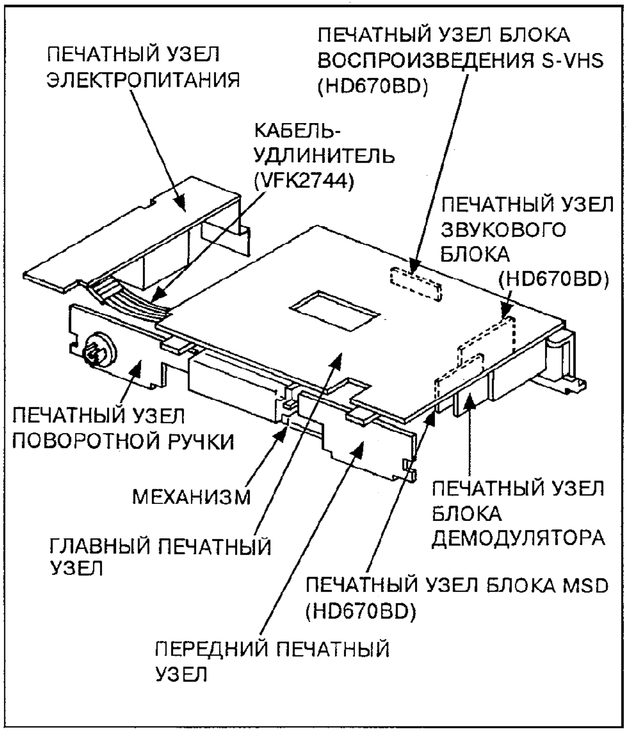

ПЕЧАТНЫЙ УЗЕЛ ЭЛЕКТРОПИТАНИЯ
ПЕЧАТНЫЙ УЗЕЛ БЛОКА ВОСПРОИЗВЕДЕНИЯ S-VHS (HD670BD)
КАБЕЛЬ-УДЛИНИТЕЛЬ (VFK2744)
ПЕЧАТНЫЙ УЗЕЛ ЗВУКОВОГО БЛОКА (HD670BD)
ПЕЧАТНЫЙ УЗЕЛ ПОВОРОТНОЙ РУЧКИ
МЕХАНИЗМ
ГЛАВНЫЙ ПЕЧАТНЫЙ УЗЕЛ
ПЕЧАТНЫЙ УЗЕЛ БЛОКА ДЕМОДУЛЯТОРА
ПЕЧАТНЫЙ УЗЕЛ БЛОКА MSD (HD670BD)
ПЕРЕДНИЙ ПЕЧАТНЫЙ УЗЕЛ

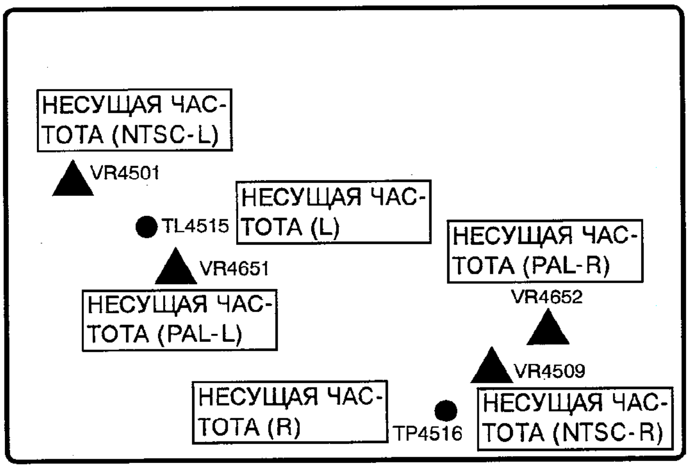
Рис. D10

2-2. ПРОЦЕДУРЫ МЕХАНИЧЕСКОЙ РЕГУЛИРОВКИ

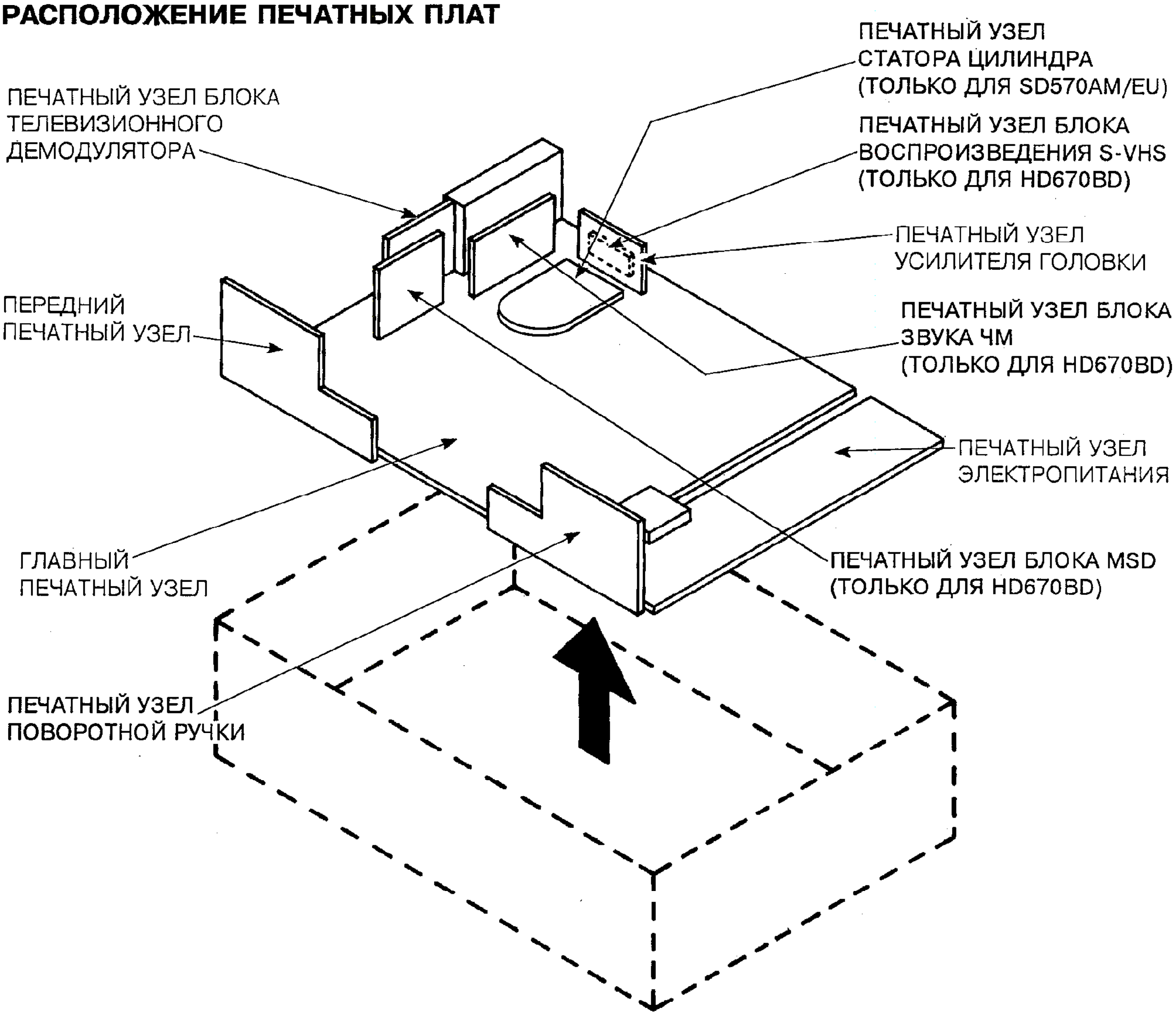
См. Инструкцию по техническому обслуживанию для рамы механизма Z.
(Номер заказа: VRD9612M129).

РАСПОЛОЖЕНИЕ КОНТРОЛЬНЫХ ТОЧЕК И РЕГУЛЯТОРОВ

ПЕЧАТНЫЙ УЗЕЛ БЛОКА ЗВУКА ЧМ (ТОЛЬКО ДЛЯ NV-HD670BD)


НЕСУЩАЯ ЧАСТОТА (NTSC-L)
VR4501
НЕСУЩАЯ ЧАСТОТА (L)
TL4515
НЕСУЩАЯ ЧАСТОТА (PAL-R)
VR4651
VR4652
НЕСУЩАЯ ЧАСТОТА (PAL-L)
VR4509
НЕСУЩАЯ ЧАСТОТА (R)
TP4516
НЕСУЩАЯ ЧАСТОТА (NTSC-R)

РАСПОЛОЖЕНИЕ ПЕЧАТНЫХ ПЛАТ


ПЕЧАТНЫЙ УЗЕЛ СТАТОРА ЦИЛИНДРА (ТОЛЬКО ДЛЯ SD570AM/EU)
ПЕЧАТНЫЙ УЗЕЛ БЛОКА ТЕЛЕВИЗИОННОГО ДЕМОДУЛЯТОРА
ПЕЧАТНЫЙ УЗЕЛ БЛОКА ВОСПРОИЗВЕДЕНИЯ S-VHS (ТОЛЬКО ДЛЯ HD670BD)
ПЕЧАТНЫЙ УЗЕЛ УСИЛИТЕЛЯ ГОЛОВКИ
ПЕРЕДНИЙ ПЕЧАТНЫЙ УЗЕЛ
ПЕЧАТНЫЙ УЗЕЛ БЛОКА ЗВУКА ЧМ (ТОЛЬКО ДЛЯ HD670BD)
ПЕЧАТНЫЙ УЗЕЛ ЭЛЕКТРОПИТАНИЯ
ГЛАВНЫЙ ПЕЧАТНЫЙ УЗЕЛ
ПЕЧАТНЫЙ УЗЕЛ БЛОКА MSD (ТОЛЬКО ДЛЯ HD670BD)
ПЕЧАТНЫЙ УЗЕЛ ПОВОРОТНОЙ РУЧКИ

2-3. ПРОЦЕДУРЫ ЭЛЕКТРИЧЕСКОЙ РЕГУЛИРОВКИ

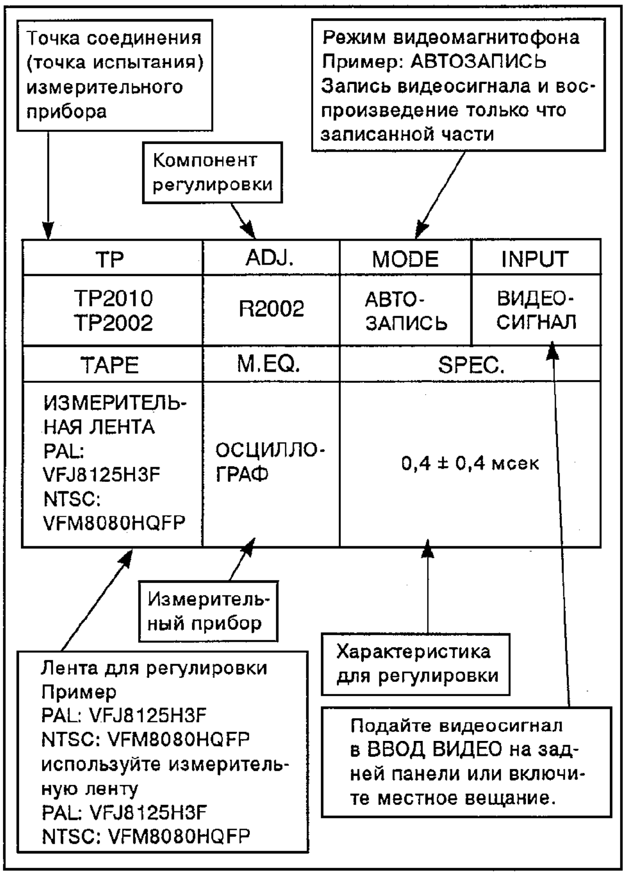
В этом разделе объясняется полная процедура регулировки необходимой для электрических схем видеомагнитофона.

2-3-1. ИЗМЕРИТЕЛЬНЫЕ ПРИБОРЫ

Для выполнения электрической регулировки необходимы следующие приборы.

1. Двухканальный осциллограф (не менее 35 МГц)
   Диапазон напряжения: 0,005 - 5 В/канал
   Диапазон частот: 35 МГц при пост. токе
   Соотношение частот: 10:1
2. Частотомер
   Диапазон частот: 0 - 10 МГц
   Соотношение частот: 1:1
3. Универсальный счетчик
4. Генератор развертки
5. Генератор гармонических волн
6. Генератор испытательной таблицы
7. Измерительная лента VHS.
   (PAL: VFJ8125H3F)
   (NTSC: VFM8080HQFP)
8. Незаписанная лента VHS
9. Отвертка с пластмассовой головкой
10. Электронный вольтметр (V.T.V.M)
11. Монитор
12. Цифровой вольтметр
13. Источник питания

2-3-2. КАК ЧИТАТЬ ПРОЦЕДУРЫ РЕГУЛИРОВКИ


Точка соединения (точка испытания) измерительного прибора
Режим видеомагнитофона Пример: АВТОЗАПИСЬ Запись видеосигнала и воспроизведение только что записанной части
Компонент регулировки
Измерительный прибор
Характеристика для регулировки
Лента для регулировки Пример PAL: VFJ8125H3F NTSC: VFM8080HQFP используйте измерительную ленту PAL: VFJ8125H3F NTSC: VFM8080HQFP
Подайте видеосигнал в ВВОД ВИДЕО на задней панели или включите местное вещание.

TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	АВТО-ЗАПИСЬ	ВИДЕО-СИГНАЛ
TAPE	**M.EQ.**	**SPEC.**	
ИЗМЕРИТЕЛЬНАЯ ЛЕНТА PAL: VFJ8125H3F NTSC: VFM8080HQFP	ОСЦИЛЛОГРАФ	0,4 ± 0,4 мсек	

Схема E1

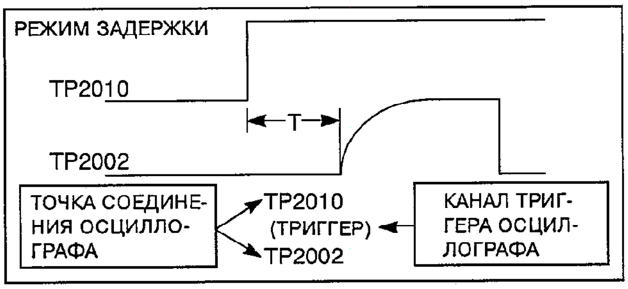

РЕЖИМ ЗАДЕРЖКИ
TP2010
T
TP2002
ТОЧКА СОЕДИНЕНИЯ ОСЦИЛЛОГРАФА
TP2010 (ТРИГГЕР)
TP2002
КАНАЛ ТРИГГЕРА ОСЦИЛЛОГРАФА

Схема E2

СЕРВОМЕХАНИЗМ

2-3-3. РЕГУЛИРОВКА ПЕРЕКЛЮЧАТЕЛЯ ИМПУЛЬСНОГО ГЕНЕРАТОРА

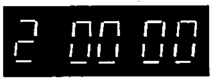
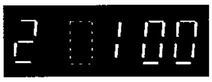
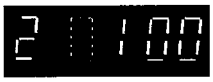
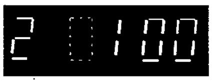
ПРОЦЕДУРЫ	ДИСПЛЕЙ
1. Установите режим техобслуживания 2, повернув поворотную ручку в положение FF и нажав кнопку EJECT три раза.	
2. Нажимайте кнопку EJECT более 3 секунд Указывается 1 на месте указания минут.	
3. Вставьте измерительную ленту VHS. (NTSC: VFM8080HQFP) (PAL: VFJ8125H3F)	
4. Эта регулировка автоматически начинается после перехода видеомагнитофона в режим PLAY. (Во время регулировки можно наблюдать за изображением на мониторе.)	
5. Когда эта регулировка завершается, начинается следующая операция. Регулировка завершена: Выбрасывается лента. Регулировка не завершена: Индикация "F20" Проверка схемы управления сервосистемы и блока цилиндра.	
6. Чтобы завершить режим техобслуживания 2, поверните поворотную ручку в положение FF и нажмите кнопку EJECT 6 раз.	

Таблица E3

2-3-4. РЕГУЛИРОВКА НЕСУЩЕЙ ЧАСТОТЫ (HD670BD)

TP	ADJ.	MODE	INPUT
TL4515 (L) TL4516 (R)	VR4501 (NTSC-L) VR4509 (NTSC-R) VR4651 (PAL-L) VR4652 (PAL-R)	АВТОЗАПИСЬ ИЛИ ОСТАНОВКА	
TAPE	**M.EQ.**	**SPEC.**	
НЕЗАПИСАННАЯ ЛЕНТА	ЧАСТОТНЫЙ СЧЕТЧИК	NTSC-L: 1,3 ± 0,003 (МГц) NTSC-R: 1,7 ± 0,003 (МГц) PAL-L: 1,4 ± 0,003 (МГц) PAL-R: 1,8 ± 0,003 (МГц)	

Прим.: 1. Во время регулировки режима NTSC подайте видеосигнал NTSC (цветные полосы)

2, Во время регулировки режима PAL подайте видеосигнал PAL (цветные полосы).

SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSEⓁ
A. D/L [L]	AUDIO DUBBING PAUSEⓁ
A. DEF [S]	AUDIO DEFEAT
A.DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBINGⒽ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EEⒽ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNALⒽ / NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER(R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIXⓁ
BIL	BILINGUAL
BIL [L]	BILINGUALⓁ
BIL. [H]	BILINGUALⒽ
BIL/M1[L]	BILINGUALⓁ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIXⒽ
BS MON [H]	BS MONITORⒽ
BS MONI [H]	BS MONITORⒽ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITORⒽ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMAⓁ
CINEMA [L]	CINEMAⓁ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOURⒽ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL[+]	CONTROL HEAD (+)
CTL[−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAYED FM RECORDINGⒽ
D. FM REC [L]	DELAYED FM RECORDINGⓁ
D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓗ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDINGⒽ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDINGⒽ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERROR TORQUE CONTROL
ECR	ERROR TORQUE CONTROL REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGERⓁ
EDIT [H]	EDITⒽ
EE [H]	EEⒽ
EE [H]/INS [M]	EEⒽ /INSERTⓂ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LPⒽ
EP/LP [H]	LPⒽ
EP/ LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOPⒽ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FAST FORWARD/REWINDⓁ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJ.	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ONⒽ
FLY ON [H]	FLYING ERASE HEAD ONⒽ
FLY. E [H]	FLYING ERASE HEAD ONⒽ
FM MUT [H]	FM AUDIO MUTEⒽ
FM MUTE [H]	FM AUDIO MUTEⒽ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ONⒽ
FULL. E [H]	FULL ERASE HEAD ONⒽ
FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOGUE)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V
H.SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [−]	HEATER (−)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [−]	HEATER (−)
I RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA 1	INPUT SELECT A1 POSITION
IN SELA 2	INPUT SELECT A2 POSITION
IN SELA 3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/RchⓁ
INS. [H]	INSERTⒽ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERTⒽ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSBⒽ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	LchⒽ
L. CH [L]	LchⓁ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)
LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LPⒽ

LPTRI [L]	LP TRICK PLAYⓁ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMUM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ /BILINGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ
MIX/ CINE	MIX Ⓗ /CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ /MAINⓁ
MN. H/MAI. L	MONAURAL Ⓗ /MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAMⓁ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURALⒽ /MAINⓁ
MONO2 [L]	MONAURAL 2 Ⓛ
MONO2/MESE[FM(L)]	MONAURAL 2/MESECAM(FMⓁ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDINGⓁ
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PALⒽ /4.43 NTSCⓂ /3.58 NTSCⓁ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAYⒽ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ

P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PALⓁ /NTSCⒽ
PB ADJ. OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R.LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSEⒽ /STOPⓂ /FORWARDⓁ
RCH [H]	RchⒽ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDINGⒽ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUTⓁ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE(TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOTOR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF.CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA / AUDIO
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S.TAB [L]	SAFETY TAB SW ONⓁ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAYⒽ /NORMALⒽ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOPⓁ
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL : ST	STOP 1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2 / S-TAB	STOP POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE

T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ /CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRICK PLAY Ⓛ
TRICK [L]	TRICK PLAY Ⓛ
TRK. ENV	AUDIO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG 19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	REFERENCE OSCILLATOR
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWNⓁ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

Input / Output Chart for IC6001

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>1</td><td>I</td><td>DEW SNS</td><td>This port is more than 1.36 V during detecting the dew formation.</td></tr>
<tr><td>2</td><td>I</td><td>NORMAL/SERVICE /T2/TEST</td><td>NORMAL/SERVICE/T2/TEST mode selection.
<table>
<tr><th>INPUT VOLTAGE</th><th>MODE</th></tr>
<tr><td>More than 4.0 V</td><td>NORMAL</td></tr>
<tr><td>2.5 V - 4.0 V</td><td>SERVICE</td></tr>
<tr><td>1.0 V - 2.5V</td><td>TEST2</td></tr>
<tr><td>Less than 1.0 V</td><td>TEST</td></tr>
</table></td></tr>
<tr><td>3</td><td>I</td><td>T-Photo</td><td>This port receives the signal (less than 2.4V) when take-up photo sensor detects the tape beginning.</td></tr>
<tr><td>4</td><td>I</td><td>S-Photo</td><td>This port receives the signal (less than 2.4V) when supply photo sensor detects the tape end.</td></tr>
<tr><td>5</td><td>I</td><td>T S CURVE</td><td>Tuner AFC S curve input in tuning mode.</td></tr>
<tr><td>6</td><td>I</td><td>TRACKING ENVE</td><td>Playback envelope input for tracking adjustment.</td></tr>
<tr><td>7</td><td>O</td><td>V O MUTE (H)</td><td>This port supplies the high signal when the screen is muted during cassette-in mode.</td></tr>
<tr><td>8</td><td>I</td><td>-/M1/BIL/M2/ST</td><td>Selection of tuning mode.
<table>
<tr><th>INPUT VOLTAGE</th><th>MODE</th></tr>
<tr><td>More than 4.2 V</td><td>NORMAL</td></tr>
<tr><td>3.0 V - 4.2 V</td><td>MONO1</td></tr>
<tr><td>2.0 V - 3.0 V</td><td>BILINGUL</td></tr>
<tr><td>0.8 V - 2.0 V</td><td>MONO1+2</td></tr>
<tr><td>Less than 0.8 V</td><td>STEREO</td></tr>
</table></td></tr>
<tr><td>9</td><td>O</td><td>CURRENT LIMIT</td><td>Capstan motor current limitter output.</td></tr>
<tr><td>10</td><td>O</td><td>CAP. R/F</td><td>Capstan rotation direction control
Reverse : High
Forward : Low</td></tr>
<tr><td>11</td><td>O</td><td>ART V/H/N</td><td>This port supplies artificial vertical sync signal to stabilize the picture in special playback mode.</td></tr>
<tr><td>12</td><td>O</td><td>REMOCON IN (L)</td><td>This port supplies the low signal while the remote control pulse is supplied.</td></tr>
<tr><td>13</td><td>O</td><td>ROTARY SW</td><td>Rotary switching signal output.</td></tr>
<tr><td>14</td><td>O</td><td>H. AMP SW</td><td>Head amp switching signal output.</td></tr>
<tr><td>15</td><td>O</td><td>ENVE SELECT</td><td>This port receives the playback envelope signal level to select the video head in special playback mode.</td></tr>
<tr><td>16</td><td>O</td><td>VIDEO H. SW</td><td>Video head switching signal output.</td></tr>
<tr><td>17</td><td>O</td><td>D. A REC. (H)</td><td>Audio signal recording on/off control.</td></tr>
<tr><td>18</td><td>O</td><td>D. REC. (H)</td><td>Video signal recording on/off control.</td></tr>
<tr><td>19</td><td>O</td><td>CUR EMPHA</td><td>HI-FI audio recording current control.</td></tr>
<tr><td>20</td><td>O</td><td>D. FM REC. (H)</td><td>HI-FI audio signal recording on/off control.</td></tr>
<tr><td>21</td><td>O</td><td>INSERT (L)</td><td>This port supplies low signal during insert mode.</td></tr>
</table>

Fig. MP1

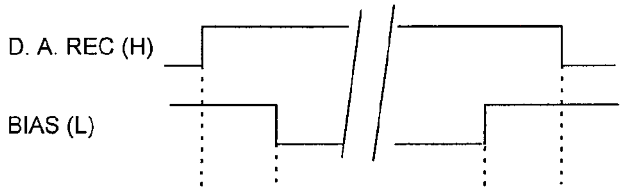
<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>22</td><td>O</td><td>FULL ERASE (L)</td><td>Full erase on/off control.
ON : Low
OFF : High</td></tr>
<tr><td>23</td><td>O</td><td>EE/VV/TRICK (L)</td><td>This port supplies the low signal during special playback (CUE,REV, SLOW,STILL) mode.</td></tr>
<tr><td>24</td><td>O</td><td>BIAS (L)</td><td>Normal audio recording control
 </td></tr>
<tr><td>25</td><td>O</td><td>CAP VM CHG (H)</td><td>Capstan motor drive control.</td></tr>
<tr><td>26</td><td>O</td><td>FF/REW&P.OFF (L)</td><td>This port supplies the low signal during FF and REW mode.</td></tr>
<tr><td>27</td><td>O</td><td>LOW SPEED (L)</td><td>This port supplies the low signal while the capstan motor drives in low speed.</td></tr>
<tr><td>28</td><td>O</td><td>MONO (H)</td><td>Compulsory monaural output.
Monaural on : High
Monaural off : Low</td></tr>
<tr><td>29</td><td>O</td><td>VIDEO EE (L)</td><td>EE/VV mode selection
EE mode : Low
VV mode : High</td></tr>
<tr><td>30</td><td>O</td><td>VIDEO EE (H)</td><td>EE/VV mode selection (The logic of pin 29 is reversed)
EE mode : High
VV mode : Low</td></tr>
<tr><td>31</td><td>O</td><td>HIFI/MIX/NORMAL</td><td rowspan="2">Audio output mode control.
<table>
<tr><td>MIX</td><td colspan="4">MODE</td></tr>
<tr><td>(HI-FI and Normal)</td><td>STEREO</td><td>L CH</td><td>R CH</td><td>NORMAL</td></tr>
<tr><td>HIFI/MIX/NORMAL</td><td>Z</td><td>Z</td><td>Z</td><td>-</td></tr>
<tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td>-</td></tr>
</table>
* MIX : The model is built in audio Dubbing.
<table>
<tr><td>EXCEPT MIX</td><td colspan="4">MODE</td></tr>
<tr><td></td><td>STEREO</td><td>L CH</td><td>R CH</td><td>NORMAL</td></tr>
<tr><td>HIFI/MIX/NORMAL</td><td>H</td><td>H</td><td>H</td><td>L</td></tr>
<tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td>-</td></tr>
</table>
Z : High Impedance</td></tr>
<tr><td>32</td><td>O</td><td>L CH/R CH/ STEREO</td></tr>
<tr><td>33</td><td>I</td><td>CLK SLCT</td><td>Clock source selection port</td></tr>
<tr><td>34</td><td>O</td><td>SIMUL(H)/INSEL(H)</td><td>Input selection control</td></tr>
<tr><td>35</td><td>I</td><td>5V(D)</td><td>Digital 5V</td></tr>
<tr><td>36</td><td>I</td><td>16MHz OSC IN</td><td>Oscillator input</td></tr>
<tr><td>37</td><td>O</td><td>16MHz OSC OUT</td><td>Oscillator output</td></tr>
<tr><td>38</td><td>I</td><td>GND (OSC)</td><td>GND</td></tr>
<tr><td>39</td><td>I</td><td>32KHz IN</td><td>Oscillator input</td></tr>
<tr><td>40</td><td>O</td><td>32KHz OUT</td><td>Oscillator output</td></tr>
<tr><td>41</td><td>I</td><td>RESET (L)</td><td>This port is low while IC6001 is reset.</td></tr>
</table>

Fig. MP2

Pin Number	Input/Output	Port Name	Function
42	O	SP (L)	This port supplies the Low signal in SP mode.
43	O	TV(H)/VTR(L)	TV/VTR selection TV : High VTR : Low
44	I	JOGB	JOG input port
45	I	JOGA	JOG input port
46	O	B/W (L)	This port supplies the low signal in B/W mode.
47	O	A. H. SW	HiFi audio head switching signal output.
48	O	LINE (H)/TUNER (L)	Line/Tuner selection control Line : High Tuner : Low
49	O	P FAIL OUT (L)	This port supplies the low signal during 90msec. after the high signal is supplied to this port.
50	O	OSD CS (L)	This port supplies the low signal while OSD IC actives.
51	O	MEM CS (L)	This port supplies low signal when the signal is sent to EEPROM.
52	O	PLL CS (H)	This port supplies the high signal when the signal is sent to tuner.
53	O	TU V MUTE (H)	This port supplies the high signal while tuner is muted.
54	O	TUNER SERCH (H)	This port supplies the high signal while tuner is searching.
55	O	NTSC M (H)	Refer to Fig. MP5. NTSC-M : High Except NTSC-M : Low
56	O	PAL-I(H)/B,G,DK(H)	Refer to Fig. MP5. PAL-I (audio carrier : 6.0MHz) : High PAL-B,G,DK (audio carrier : 5.5MHz or 6.5MHz) : Low
57	O	MESECAM(H)/ AUTO(Z)/PAL(L)	Refer to Fig. MP5. Compulsory MESECAM : High AUTO (PAL/MESECAM) : High Impedance Compulsory PAL : Low
58	O	NTSC (L)	Refer to Fig. MP5. This port supplies the low signal in NTSC mode.
59	O	EE EDIT (H)	This port supplies the high signal in EE mode, NTSC and EP mode.
60	O	AI1 (H)	AI playback control.
61	O	A. DUB (H)	This port supplies high signal during audio dubbing mode.
62	O	AUDIO MUTE (H)	This port supplies the high signal in special playback (CUE, REV, SLOW, STILL) mode.
63	O	FLD TALK	Display control serial data output.
64	I	FLD LSN	Display control serial data input.
65	O	FLD CLK	Display control serial clock output.
66	O	IC TALK	EEPROM CG PLL control serial data output.
67	I	IC LSN	EEPROM CG PLL control serial data input.
68	O	IC CLK	EEPROM CG PLL control serial clock output.
69	I	POWER OFF (H)	Power on/off control.
70	O	LOADING (H)	This port supplies high signal while the mechanism is loaded.
71	O	128Hz	Main clock of microprocessor.
72	O	UNLOADING (H)	This port supplies high signal while the mechanism is unloaded.

Fig. MP3

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>73</td><td>O</td><td>P FAIL IN (L)</td><td>Power failure detection.</td></tr>
<tr><td>74</td><td>I</td><td>5V (DA)</td><td>D/A 5V</td></tr>
<tr><td>75</td><td>O</td><td>CAP ET</td><td>Capstan torque order.</td></tr>
<tr><td>76</td><td>O</td><td>CYL ET</td><td>Cylinder torque order.</td></tr>
<tr><td>77</td><td>I</td><td>S. REEL PULSE</td><td>Supply reel pulse input.</td></tr>
<tr><td>78</td><td>I</td><td>T. REEL PULSE</td><td>Take-up reel pulse input.</td></tr>
<tr><td>79</td><td>I</td><td>358 (H)</td><td>NTSC 3.58 selection.</td></tr>
<tr><td>80</td><td>I</td><td>ABS NORM</td><td>HiFi audio mode selection control (Compulsory normal audio mode).</td></tr>
<tr><td>81</td><td>I</td><td>S TAB (L)</td><td>This port receives low signal while the cassette tape with safety tab is inserted.</td></tr>
<tr><td>82</td><td>I</td><td>VSYNC (HSY)</td><td>Composite video sync. input.</td></tr>
<tr><td>83</td><td>I</td><td>CAP FG</td><td>Capstan FG input.</td></tr>
<tr><td>84</td><td>I</td><td>CAP FG OUT</td><td>Capstan FG output.</td></tr>
<tr><td>85</td><td>O</td><td>CLY PFG</td><td>Cylinder PFG input.</td></tr>
<tr><td>86</td><td>-</td><td>GND (A)</td><td>Analog GND.</td></tr>
<tr><td>87</td><td>O</td><td>OREF</td><td>Op amp output for 1/2 VDD reference.</td></tr>
<tr><td>88</td><td>I</td><td>IREF</td><td>Op amp input for 1/2 VDD reference.</td></tr>
<tr><td>89</td><td>I/O</td><td>CTL. HEAD (-)</td><td>Control signal (-) input.</td></tr>
<tr><td>90</td><td>I/O</td><td>CTL. HEAD (+)</td><td>Control signal (+) input.</td></tr>
<tr><td>91</td><td>I</td><td>TEST SIGNAL (L)</td><td>This port supplies the low signal while test signal is displayed.</td></tr>
<tr><td>92</td><td>I</td><td>GND</td><td>GND</td></tr>
<tr><td>93</td><td>I</td><td>CTL AMP REF</td><td>Control amp reference input.</td></tr>
<tr><td>94</td><td>-</td><td>CTL AMP GND</td><td>Control amp GND.</td></tr>
<tr><td>95</td><td>O</td><td>PB CTL OUT</td><td>Control amp output.</td></tr>
<tr><td>96</td><td>-</td><td>5V (A)</td><td>Analog 5V</td></tr>
<tr><td>97</td><td>I</td><td>POSITION SW3</td><td rowspan="3">
<table>
<tr><th>P SW 3</th><th>P SW 2</th><th>P SW 1</th><th>POSITION (MODE) NAME</th></tr>
<tr><td>0</td><td>0</td><td>0</td><td>EJECT</td></tr>
<tr><td>0</td><td>0</td><td>I</td><td>CASSETTE DOWN</td></tr>
<tr><td>0</td><td>I</td><td>0</td><td>REV, REV SLOW</td></tr>
<tr><td>0</td><td>I</td><td>I</td><td>MID (LOADING, UNLOADING)</td></tr>
<tr><td>I</td><td>0</td><td>0</td><td>PLAY, REC, STILL, PAUSE, CUE, FWD SLOW, STOP3*1</td></tr>
<tr><td>I</td><td>0</td><td>I</td><td>STOP</td></tr>
<tr><td>I</td><td>I</td><td>0</td><td>FF, REW</td></tr>
<tr><td>I</td><td>I</td><td>I</td><td>INTERMEDIATE</td></tr>
</table>
*1 The Pinch Roller is on the capstan motor shaft.</td></tr>
<tr><td>98</td><td>I</td><td>POSITION SW2</td></tr>
<tr><td>99</td><td>I</td><td>POSITION SW1</td></tr>
<tr><td>100</td><td>O</td><td>FL DRV CS (H)</td><td>This port supplies the high signal when the display driver is selected.</td></tr>
</table>

Fig. MP4

Relationship table between possible tuning and possible recording of broadcasting system and system selection control port

NV-SD570EU	NV-HD670BD NV-SD570AM	SYSTEM SELECTION CONTROL PORT			
		NTSC-M (H) PIN 55	PAL-I (H) PIN 56	MESECAM (H) PIN 57 *2	NTSC (L) PIN 58
PAL-B, G, D SECAM-B,G,D,K	PAL-B, G, D SECAM-B,G,D,K	L	L	Z *1	H
---	NTSC-B,G				L
PAL-I	PAL-I	L	H	Z *1	H
---	NTSC-I				L
SECAM-B,G,D,K	SECAM-B,G,D,K	L	L	H	H
---	NTSC-M	H	L	Z *1	L

Z : High Impedance

Fig. MP5

Relationship between possible recording of line input and possible playback and system selection control port

NV-SD570EU	NV-HD670BD NV-SD570AM	CONTROL PORT	
		MESECAM (H) PIN 57	NTSC (L) PIN 58
PAL MESECAM	PAL MESECAM	Z *1	H
NTSC	NTSC		L
MESECAM	MESECAM	H	H
NTSC	NTSC		L *3
PAL	PAL	L	H
NTSC	NTSC		L

Z : High Impedance

*1 : When MESECAM is set to High impedance, port level (High or Low) is defined by Y/C IC distinction. (It is defined by input signal supplied to Y/C IC)

*2 : When OSD is appeared in the monitor except recording mode (Blue back), compulsory MESECAM is set to High.

*3 : The following condition is not programmed.
MESECAM (H) = H & NTSC (L) = L

Схема ввода/вывода для IC6001

<table>
<tr><th>Номер штыря</th><th>Ввод/ вывод</th><th>Название порта</th><th>Функция</th></tr>
<tr><td>1</td><td>Ввод</td><td>DEW SNS</td><td>Напряжение этого порта больше 1,36 В во время детектирования образования росы.</td></tr>
<tr><td>2</td><td>Ввод</td><td>NORMAL/SERVICE /T2/TEST</td><td>Выбор режимов нормального/обслуживания/Т2/испытания.
<table>
<tr><th>НАПРЯЖЕНИЕ ВВОДА</th><th>РЕЖИМ</th></tr>
<tr><td>Более 4,0 В</td><td>НОРМАЛЬНЫЙ</td></tr>
<tr><td>2,5 В - 4,0 В</td><td>ОБСЛУЖИВАНИЯ</td></tr>
<tr><td>1,0 В - 2,5 В</td><td>ИСПЫТАНИЯ 2</td></tr>
<tr><td>Менее 1,0 В</td><td>ИСПЫТАНИЯ</td></tr>
</table></td></tr>
<tr><td>3</td><td>Ввод</td><td>T-Photo</td><td>Этот порт получает сигнал (менее 2,4 В) когда фотодетектор со стороны приема ленты детектирует начало ленты.</td></tr>
<tr><td>4</td><td>Ввод</td><td>S-Photo</td><td>Этот порт получает сигнал (менее 2,4 В) когда фотодетектор со стороны подачи ленты детектирует конец ленты.</td></tr>
<tr><td>5</td><td>Ввод</td><td>TS CURVE</td><td>Ввод кривой S автоматической регулировки частоты тюнера в режиме настройки.</td></tr>
<tr><td>6</td><td>Ввод</td><td>TRACKING ENVE</td><td>Ввод огибающей воспроизведения для настройки регулировки положения ленты.</td></tr>
<tr><td>7</td><td>Вывод</td><td>VO MUTE (H)</td><td>Этот порт подает высокий сигнал, когда на экране приглушен звук в режиме установки кассеты.</td></tr>
<tr><td>8</td><td>Ввод</td><td>-/M1/BIL/M2/ST</td><td>Выбор режимов настройки.
<table>
<tr><th>НАПРЯЖЕНИЕ ВВОДА</th><th>РЕЖИМ</th></tr>
<tr><td>Более 4,2 В</td><td>НОРМАЛЬНЫЙ</td></tr>
<tr><td>3,0 В - 4,2 В</td><td>МОНОФОНИЧЕСКИЙ 1</td></tr>
<tr><td>2,0 В - 3,0 В</td><td>ДВУХЯЗЫЧНЫЙ</td></tr>
<tr><td>0,8 - 2,0 В</td><td>МОНОФОНИЧЕСКИЙ 1 + 2</td></tr>
<tr><td>Менее 0,8 В</td><td>СТЕРЕОФОНИЧЕСКИЙ</td></tr>
</table></td></tr>
<tr><td>9</td><td>Вывод</td><td>CURRENT LIMIT</td><td>Вывод ограничителя тока двигателя ведущего вала.</td></tr>
<tr><td>10</td><td>Вывод</td><td>CAP. R/F</td><td>Регулировка направления вращения ведущего вала.
Обратное направление: Высокое напряжение
Поступательное направление: Низкое напряжение</td></tr>
<tr><td>11</td><td>Вывод</td><td>ART V/H/N</td><td>Этот порт подает искусственный полевой синхросигнал для стабилизации изображения в режимах специального воспроизведения.</td></tr>
<tr><td>12</td><td>Вывод</td><td>REMOCON IN (L)</td><td>Этот порт подает низкий сигнал во время подачи импульсов дистанционного управления.</td></tr>
<tr><td>13</td><td>Вывод</td><td>ROTARY SW</td><td>Вывод сигнала поворотного переключателя.</td></tr>
<tr><td>14</td><td>Вывод</td><td>H. AMP SW</td><td>Вывод сигнала переключения усилителя головки.</td></tr>
<tr><td>15</td><td>Вывод</td><td>ENVE SELECT</td><td>Этот порт получает уровень огибающей сигнала воспроизведения для выбора видеоголовки в режимах специального воспроизведения.</td></tr>
<tr><td>16</td><td>Вывод</td><td>VIDEO H. SW</td><td>Вывод сигнала переключения видеоголовки.</td></tr>
<tr><td>17</td><td>Вывод</td><td>D. A REC. (H)</td><td>Контроль вкл./выкл. записи звукового сигнала.</td></tr>
<tr><td>18</td><td>Вывод</td><td>D. REC. (H)</td><td>Контроль вкл./выкл. записи видеосигнала.</td></tr>
<tr><td>19</td><td>Вывод</td><td>CUR EMPHA</td><td>Контроль тока записи звука HI-FI.</td></tr>
<tr><td>20</td><td>Вывод</td><td>D. FM REC. (H)</td><td>Контроль вкл./выкл. записи звукового сигнала HI-FI.</td></tr>
<tr><td>21</td><td>Вывод</td><td>INSERT (L)</td><td>Этот порт подает низкий сигнал в режиме вставки.</td></tr>
</table>

Таблица МР1

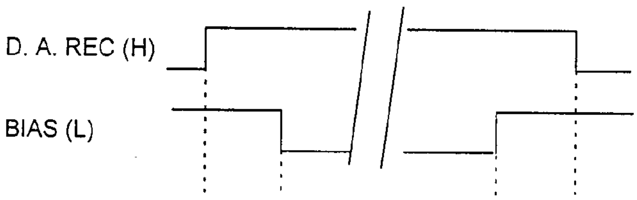
<table>
<tr><th>Номер штыря</th><th>Ввод/вывод</th><th>Название порта</th><th>Функция</th></tr>
<tr><td>22</td><td>Вывод</td><td>FULL ERASE (L)</td><td>Контроль вкл./выкл. полного стирания.
ВКЛ.: Низкое напряжение
ВЫКЛ.: Высокое напряжение</td></tr>
<tr><td>23</td><td>Вывод</td><td>EE/W/TRICK (L)</td><td>Этот порт подает низкий сигнал в режимах специального воспроизведения (CUE, REV, SLOW, STILL).</td></tr>
<tr><td>24</td><td>Вывод</td><td>BIAS (L)</td><td>Контроль записи нормального звука.
 </td></tr>
<tr><td>25</td><td>Вывод</td><td>CAP VM CHG (H)</td><td>Контроль привода двигателя ведущего вала.</td></tr>
<tr><td>26</td><td>Вывод</td><td>FF/REW&P.OFF (L)</td><td>Этот порт подает низкий сигнал в режимах FF и REW.</td></tr>
<tr><td>27</td><td>Вывод</td><td>LOW SPEED (L)</td><td>Этот порт подает низкий сигнал, когда двигатель ведущего вала работает при низкой скорости.</td></tr>
<tr><td>28</td><td>Вывод</td><td>MONO (H)</td><td>Вывод принудительного монофонического звука.
Вкл. монофонического звука: Высокое напряжение
Выкл. монофонического звука: Низкое напряжение</td></tr>
<tr><td>29</td><td>Вывод</td><td>VIDEO EE (L)</td><td>Выбор режимов EE/W
Режим EE: Низкое напряжение
Режим W: Высокое напряжение</td></tr>
<tr><td>30</td><td>Вывод</td><td>VIDEO EE (H)</td><td>Выбор режимов EE/W (Логика штыря 29 сохраняется
Режим EE: Низкое напряжение
Режим W: Высокое напряжение</td></tr>
<tr><td>31</td><td>Вывод</td><td>HIFI/MIX/NORMAL</td><td rowspan="2">Контроль режимов вывода звука.
<table>
<tr><th rowspan="2">MIX
(H-IFI и Нормальный)</th><th colspan="4">РЕЖИМ</th></tr>
<tr><th>STEREO</th><th>L CH</th><th>R CH</th><th>NORMAL</th></tr>
<tr><td>HIFI/MIX/NORMAL</td><td>Z</td><td>Z</td><td>Z</td><td>-</td></tr>
<tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td>-</td></tr>
</table>
*MIX: Модель с встроенной функцией перезаписи звука.
<table>
<tr><th rowspan="2">КРОМЕ MIX
(H-IFI и Нормальный)</th><th colspan="4">РЕЖИМ</th></tr>
<tr><th>STEREO</th><th>L CH</th><th>R CH</th><th>NORMAL</th></tr>
<tr><td>HIFI/MIX/NORMAL</td><td>H</td><td>H</td><td>H</td><td>L</td></tr>
<tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td></td></tr>
</table>
Z: Высокое полное сопротивление</td></tr>
<tr><td>32</td><td>Вывод</td><td>L CH/R CH/ STEREO</td></tr>
<tr><td>33</td><td>Ввод</td><td>CLK SLCT</td><td>Порт выбора источника тактовых импульсов</td></tr>
<tr><td>34</td><td>Вывод</td><td>SIMUL(H)/INSEL(H)</td><td>Контроль выбора вводов</td></tr>
<tr><td>35</td><td>Ввод</td><td>5V(D)</td><td>Цифровой 5 В</td></tr>
<tr><td>36</td><td>Ввод</td><td>16MHz OSC IN</td><td>Ввод осциллятора</td></tr>
<tr><td>37</td><td>Вывод</td><td>16MHz OSC OUT</td><td>Вывод осциллятора</td></tr>
<tr><td>38</td><td>Ввод</td><td>GND (OSC)</td><td>Заземление</td></tr>
<tr><td>39</td><td>Ввод</td><td>32KHz IN</td><td>Ввод осциллятора</td></tr>
<tr><td>40</td><td>Вывод</td><td>32KHz OUT</td><td>Вывод осциллятора</td></tr>
<tr><td>41</td><td>Ввод</td><td>RESET (L)</td><td>Напряжение этого порта низкое, когда аннулирована IC6001.</td></tr>
</table>

Таблица MP2

Номер штыря	Ввод/ вывод	Название порта	Функция
42	Вывод	SP (L)	Этот порт подает низкий сигнал в режиме SP.
43	Вывод	TV(H)/VTR(L)	Выбор ТВ/видеомагнитофон ТВ: Высокое напряжение Видеомагнитофон: Низкое напряжение
44	Ввод	JOGB	Порт ввода JOG
45	Ввод	JOGA	Порт ввода JOG
46	Вывод	B/W (L)	Этот порт подает низкий сигнал в режиме B/W.
47	Вывод	A. H. SW	Вывод сигнала переключения головки звука HiFi.
48	Вывод	LINE (H)/TUNER (L)	Контроль выбора линии/тюнера Линия: Высокое напряжение Тюнер: Низкое напряжение
49	Вывод	P FAIL OUT (L)	Этот порт подает низкий сигнал в течение 90 мсек. после подачи высокого сигнала в этот порт.
50	Вывод	OSD CS (L)	Этот порт подает низкий сигнал, когда действует OSD IC.
51	Вывод	MEM CS (L)	Этот порт подает низкий сигнал, когда сигнал подается в ЭППЗУ.
52	Вывод	PLL CS (L)	Этот порт подает высокий сигнал, когда сигнал подается в тюнер.
53	Вывод	TU V MUTE (H)	Этот порт подает высокий сигнал, когда тюнер настраивается безшумно.
54	Вывод	TUNER SERCH (H)	Этот порт подает высокий сигнал, когда тюнер выполняет поиск.
55	Вывод	NTSC M (H)	См. Таблицу MP5. NTSC-M: Высокое напряжение Кроме NTSC-M: Низкое напряжение
56	Вывод	PAL-I(H)/B,G,DK(H)	См. Таблицу MP5. PAL-I (несущая звукового сопровождения: 6,0 МГц) : Высокое напряжение PAL-B,G,DK (несущая звукового сопровождения: 5,5 МГц или 6,5 МГц) : Низкое напряжение
57	Вывод	MESECAM(H)/ AUTO(Z)/PAL(L)	См. Таблицу MP5. Принудительный MESECAM: Высокое напряжение АВТО (PAL/MESECAM): Высокое полное сопротивление Принудительный PAL: Низкое напряжение
58	Вывод	NTSC (L)	См. Таблицу MP5. Этот порт подает низкий сигнал в режиме NTSC.
59	Вывод	EE EDIT (H)	Этот порт подает высокий сигнал в режимах EE, NTSC и EP.
60	Вывод	AI1 (H)	Контроль воспроизведения AI.
61	Вывод	A. DUB (H)	Этот порт подает высокий сигнал в режиме перезаписи звука.
62	Вывод	AUDIO MUTE (H)	Этот порт подает высокий сигнал в режимах специального воспроизведения (CUE, REV, SLOW, STILL).
63	Вывод	FLD TALK	Вывод последовательных данных контроля дисплея.
64	Ввод	FLD LSN	Ввод последовательных данных контроля дисплея.
65	Вывод	FLD CLK	Вывод последовательных тактовых импульсов контроля дисплея.
66	Вывод	IC TALK	Вывод последовательных данных системы контроля фазовой подстройки частоты знакогенератора ЭППЗУ.
67	Ввод	IC LSN	Ввод последовательных данных контроля системы фазовой подстройки частоты знакогенератора ЭППЗУ.
68	Вывод	IC CLK	Вывод последовательных тактовых импульсов контроля системы фазовой подстройки частоты знакогенератора ЭППЗУ.
69	Ввод	POWER OFF (H)	Контроль вкл./выкл. питания.
70	Вывод	LOADING (H)	Этот порт подает высокий сигнал, когда механизм загружается.
71	Вывод	128Hz	Главный тактовый генератор микропроцессора.
72	Вывод	UNLOADING (H)	Этот порт подает высокий сигнал, когда механизм разгружается.

Таблица MP3

<table>
<tr><th>Номер штыря</th><th>Ввод/ вывод</th><th>Название порта</th><th>Функция</th></tr>
<tr><td>73</td><td>Вывод</td><td>P FAIL IN (L)</td><td>Детектирование перерыва подачи электроэнергии.</td></tr>
<tr><td>74</td><td>Ввод</td><td>5V (DA)</td><td>D/A 5В</td></tr>
<tr><td>75</td><td>Вывод</td><td>CAP ET</td><td>Команда крутящего момента ведущего вала.</td></tr>
<tr><td>76</td><td>Вывод</td><td>CYL ET</td><td>Команда крутящего момента цилиндра.</td></tr>
<tr><td>77</td><td>Ввод</td><td>S. REEL PULSE</td><td>Ввод импульсов подающей катушки.</td></tr>
<tr><td>78</td><td>Ввод</td><td>T. REEL PULSE</td><td>Ввод импульсов приемной катушки.</td></tr>
<tr><td>79</td><td>Ввод</td><td>358 (H)</td><td>Выбор NTSC 3.58.</td></tr>
<tr><td>80</td><td>Ввод</td><td>ABS NORM</td><td>Контроль выбора режима звука HiFi (Принудительный нормальный режим звука).</td></tr>
<tr><td>81</td><td>Ввод</td><td>S TAB (L)</td><td>Этот порт получает низкий сигнал, когда вставляется кассета с лентой с предохранительной пластиной.</td></tr>
<tr><td>82</td><td>Ввод</td><td>VSYNC (HSY)</td><td>Ввод полного синхронизирующего видеосигнала.</td></tr>
<tr><td>83</td><td>Ввод</td><td>CAP FG</td><td>Ввод FG ведущего вала.</td></tr>
<tr><td>84</td><td>Ввод</td><td>CAP FG OUT</td><td>Вывод FG ведущего вала.</td></tr>
<tr><td>85</td><td>Вывод</td><td>CLY PFG</td><td>Ввод PFG цилиндра.</td></tr>
<tr><td>86</td><td>-</td><td>GND (A)</td><td>Аналоговое заземление.</td></tr>
<tr><td>87</td><td>Вывод</td><td>OREF</td><td>Вывод операционного усилителя для эталона 1/2 VDD.</td></tr>
<tr><td>88</td><td>Ввод</td><td>IREF</td><td>Ввод операционного усилителя для эталона 1/2 VDD.</td></tr>
<tr><td>89</td><td>Ввод-вывод</td><td>CTL. HEAD (-)</td><td>Ввод сигнала управления (-).</td></tr>
<tr><td>90</td><td>Ввод-вывод</td><td>CTL. HEAD (+)</td><td>Ввод сигнала управления (+).</td></tr>
<tr><td>91</td><td>Ввод</td><td>TEST SIGNAL (L)</td><td>Этот порт подает низкий сигнал, когда сигнал испытания указывается на дисплее.</td></tr>
<tr><td>92</td><td>Ввод</td><td>GND</td><td>Заземление</td></tr>
<tr><td>93</td><td>Ввод</td><td>CTL AMP REF</td><td>Ввод эталона управляющего усилителя.</td></tr>
<tr><td>94</td><td>-</td><td>CTL AMP GND</td><td>Заземление управляющего усилителя.</td></tr>
<tr><td>95</td><td>Вывод</td><td>PB CTL OUT</td><td>Вывод управляющего усилителя.</td></tr>
<tr><td>96</td><td>-</td><td>5V (A)</td><td>Аналоговой 5 В</td></tr>
<tr><td>97</td><td>Ввод</td><td>POSITION SW3</td><td rowspan="3"><table>
<tr><th>P SW 3</th><th>P SW 2</th><th>P SW 1</th><th>НАЗВАНИЕ ПОЛОЖЕНИЯ (РЕЖИМА)</th></tr>
<tr><td>0</td><td>0</td><td>0</td><td>EJECT</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>CASSETTE DOWN</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>REV, REV SLOW</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>MID (LOADING, UNLOADING)</td></tr>
<tr><td>1</td><td>0</td><td>0</td><td>PLAY, REC, STILL, PAUSE, CUE, FWD SLOW, STOP3*1</td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>STOP</td></tr>
<tr><td>1</td><td>1</td><td>0</td><td>FF, REW</td></tr>
<tr><td>1</td><td>1</td><td>1</td><td>INTERMEDIATE</td></tr>
</table>
*1 Прижимной ролик находится на оси ведущего вала.</td></tr>
<tr><td>98</td><td>Ввод</td><td>POSITION SW2</td></tr>
<tr><td>99</td><td>Ввод</td><td>POSITION SW1</td></tr>
<tr><td>100</td><td>Вывод</td><td>FL DRV CS (H)</td><td>Этот порт подает высокий сигнал, когда выбран драйвер дисплея.</td></tr>
</table>

Таблица MP4

Таблица взаимосвязи между возможными системами вещания для настройки и записи и портами контроля выбора систем

NV-SD570EU	NV-HD670BD NV-SD570AM	ПОРТ КОНТРОЛЯ ВЫБОРА СИСТЕМ			
		NTSC-M (H) ШТЫРЬ 55	PAL-I (H) ШТЫРЬ 56	MESECAM (H) ШТЫРЬ 57 *2	NTSC (L) ШТЫРЬ 58
PAL-B, G, D SECAM-B,G,D,K	PAL-B,G,D SECAM-B,G,D,K	L	L	Z *1	H
---	NTSC-B,G				L
PAL-I	PAL-I	L	H	Z *1	H
---	NTSC-I				L
SECAM-B,G,D,K	SECAM-B,G,D,K	L	L	H	H
---	NTSC-M	H	L	Z *1	L

Z: Высокое полное сопротивление

Таблица MP5

Взаимосвязь между возможными системами для записи и воспроизведения через вывод линии и портами контроля выбора систем

NV-HD570EU	NV-HD670BD NV-SD570AM	ПОРТ КОНТРОЛЯ	
		MESECAM (H) ШТЫРЬ 57	NTSC (L) ШТЫРЬ 58
PAL MESECAM	PAL MESECAM	Z *1	H
NTSC	NTSC		L
MESECAM	MESECAM	H	H
NTSC	NTSC		L *3
PAL	PAL	L	H
NTSC	NTSC		L

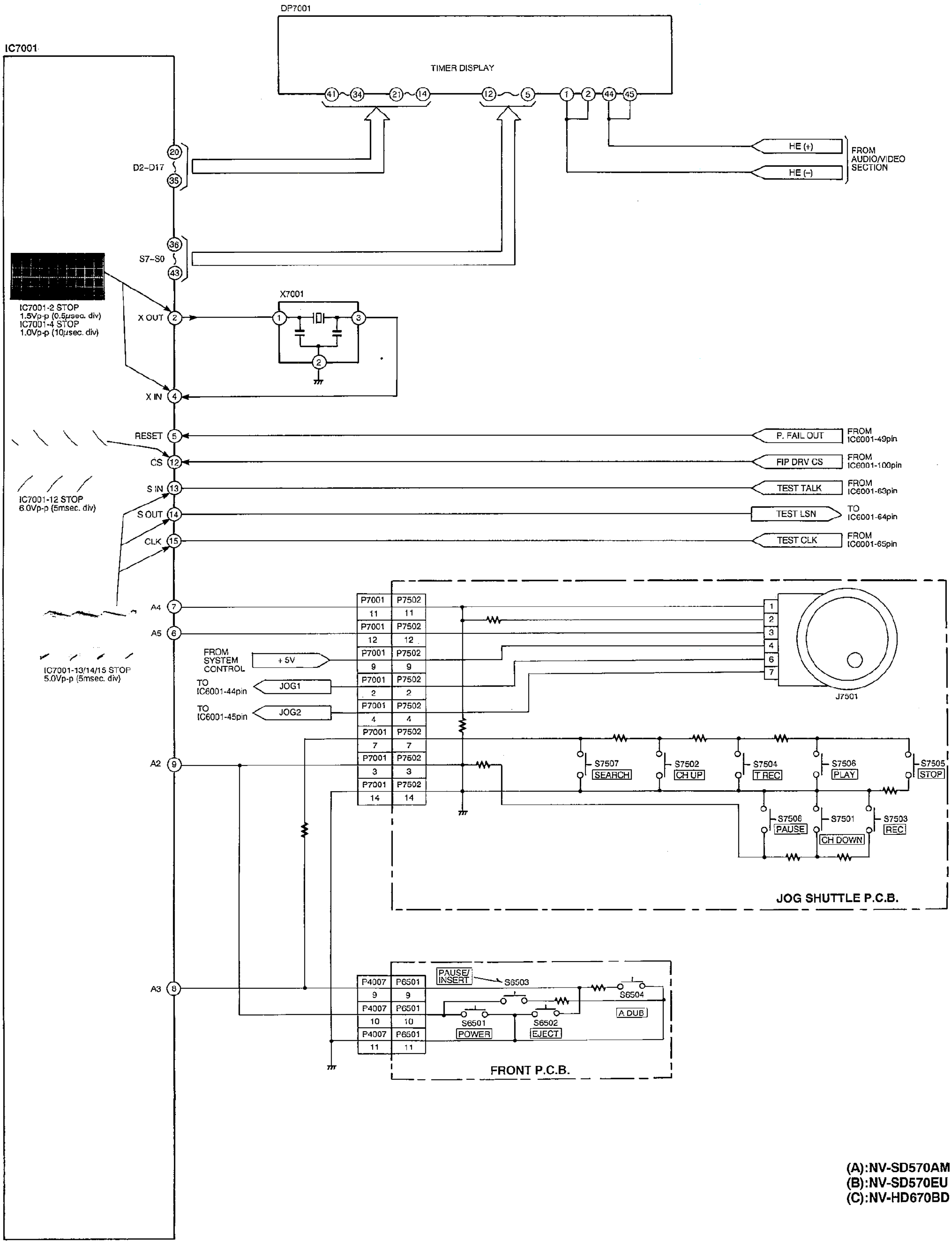
Z: Высокое полное сопротивление

*1: Когда MESECAM установлена на высокое полное сопротивление, уровень порта (высокий или низкий) определяется различием Y/C IC. (Это определяется сигналом ввода, подаваемым в Y/C IC.)

*2: Когда появляется OSD на мониторе, за исключением режима записи (голубой фон), принудительная MESECAM устанавливается на высокий уровень.

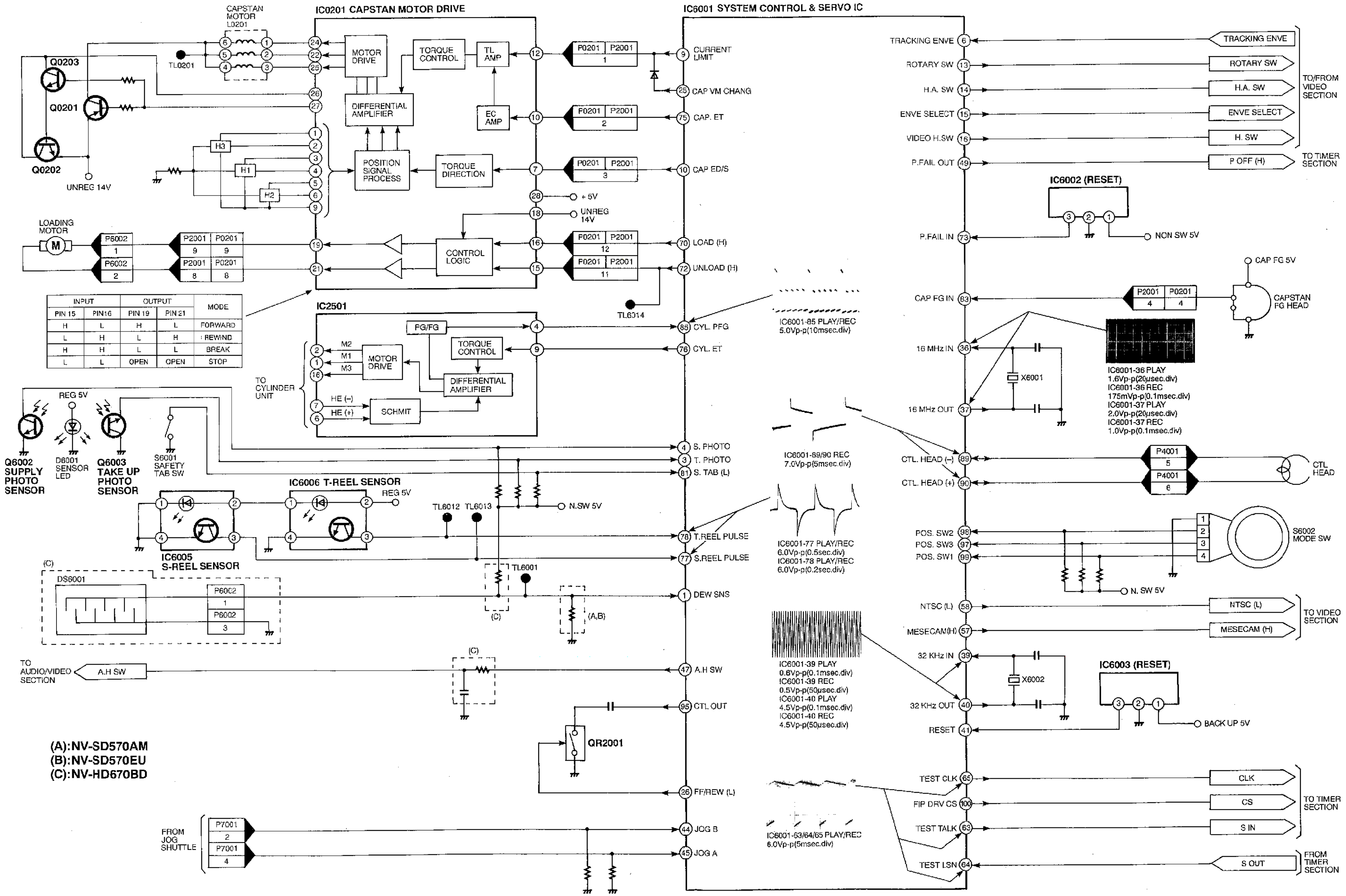
*3: Следующее условие не запрограммировано.
MESECAM (H) = H & NTSC (L) = L

3-2. TIMER SECTION BLOCK DIAGRAM


DP7001
TIMER DISPLAY
41~34
21~14
12~5
1
2
44
45
IC7001
D2~D17
20
35
S7~S0
36
43
HE (+)
HE (–)
FROM AUDIO/VIDEO SECTION
X7001
1
2
3
IC7001-2 STOP
1.5Vp-p (0.5µsec. div)
IC7001-4 STOP
1.0Vp-p (10µsec. div)
X OUT 2
X IN 4
RESET 5
CS 12
S IN 13
S OUT 14
CLK 15
P. FAIL OUT
FROM IC6001-49pin
FIP DRV CS
FROM IC6001-100pin
TEST TALK
FROM IC6001-63pin
TEST LSN
TO IC6001-64pin
TEST CLK
FROM IC6001-65pin
IC7001-12 STOP
6.0Vp-p (5msec. div)
A4 7
A5 6
IC7001-13/14/15 STOP
5.0Vp-p (5msec. div)
FROM SYSTEM CONTROL
+5V
TO IC6001-44pin
JOG1
TO IC6001-45pin
JOG2
P7001 P7502
11 11
P7001 P7502
12 12
P7001 P7502
9 9
P7001 P7502
2 2
P7001 P7502
4 4
P7001 P7502
7 7
P7001 P7502
3 3
P7001 P7502
14 14
1
2
3
4
6
7
J7501
A2 9
S7507 SEARCH
S7502 CH UP
S7504 T REC
S7506 PLAY
S7505 STOP
S7508 PAUSE
S7501 CH DOWN
S7503 REC
JOG SHUTTLE P.C.B.
A3 8
P4007 P6501
9 9
P4007 P6501
10 10
P4007 P6501
11 11
PAUSE/INSERT
S6503
S6504
A DUB
S6501 POWER
S6502 EJECT
FRONT P.C.B.

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

3-3. SYSTEM CONTROL & SERVO SECTION BLOCK DIAGRAM



INPUT		OUTPUT		MODE
PIN 15	PIN16	PIN 19	PIN 21	
H	L	H	L	FORWARD
L	H	L	H	REWIND
H	H	L	L	BREAK
L	L	OPEN	OPEN	STOP

IC6001-85 PLAY/REC
5.0Vp-p(10msec.div)

IC6001-36 PLAY
1.6Vp-p(20μsec.div)
IC6001-36 REC
175mVp-p(0.1msec.div)
IC6001-37 PLAY
2.0Vp-p(20μsec.div)
IC6001-37 REC
1.0Vp-p(0.1msec.div)

IC6001-89/90 REC
7.0Vp-p(5msec.div)

IC6001-77 PLAY/REC
6.0Vp-p(0.5sec.div)
IC6001-78 PLAY/REC
6.0Vp-p(0.2sec.div)

IC6001-39 PLAY
0.6Vp-p(0.1msec.div)
IC6001-39 REC
0.5Vp-p(50μsec.div)
IC6001-40 PLAY
4.5Vp-p(0.1msec.div)
IC6001-40 REC
4.5Vp-p(50μsec.div)

IC6001-63/64/65 PLAY/REC
6.0Vp-p(5msec.div)

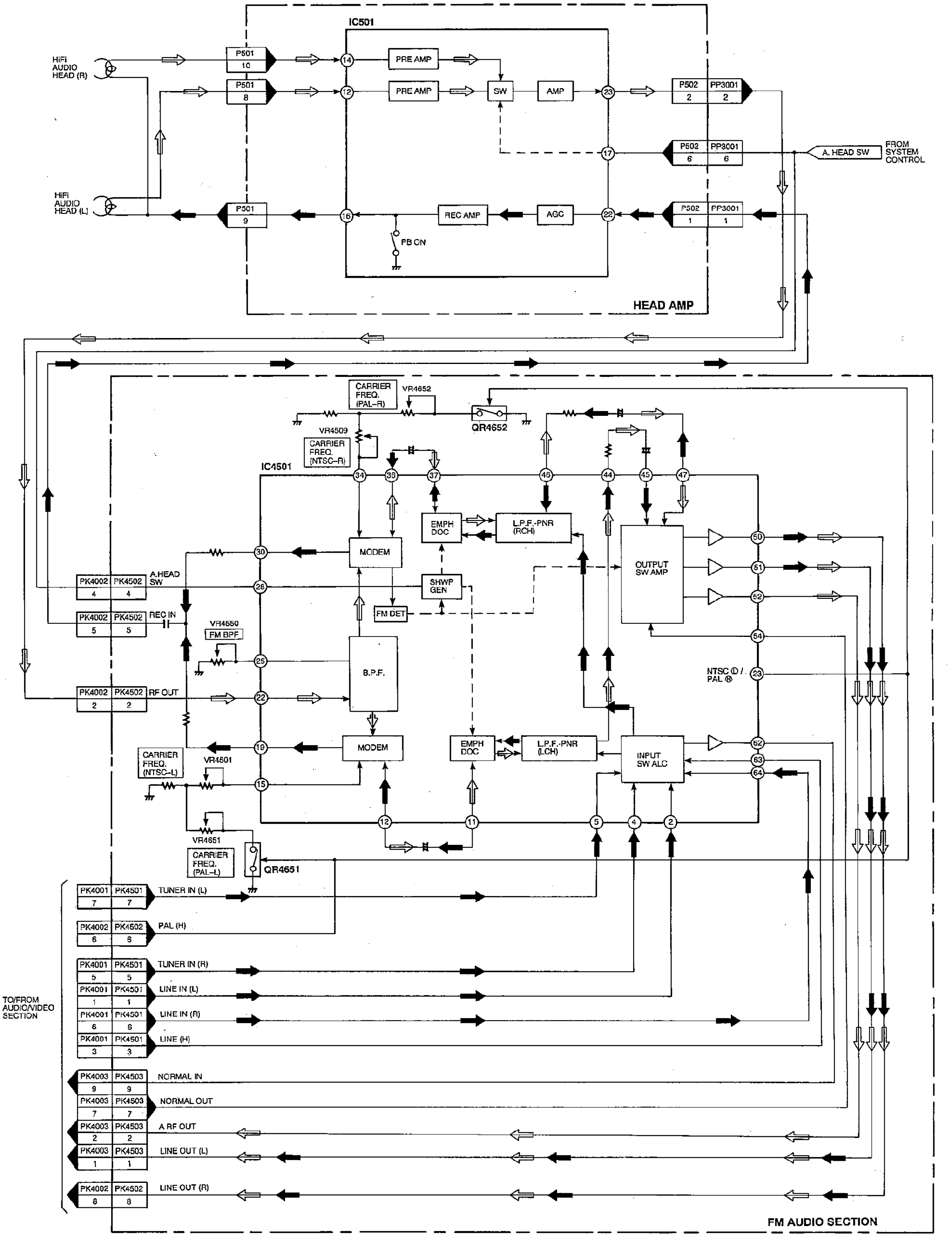
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

CAPSTAN MOTOR L0201
IC0201 CAPSTAN MOTOR DRIVE
Q0203
Q0201
Q0202
TL0201
UNREG 14V
MOTOR DRIVE
TORQUE CONTROL
TL AMP
EC AMP
DIFFERENTIAL AMPLIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
CONTROL LOGIC
H1
H2
H3
+5V
UNREG 14V
LOADING MOTOR
M
P6002
P2001
P0201
F0201
TL6014
IC2501
FG/FG
TORQUE CONTROL
M1
M2
M3
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
HE (–)
HE (+)
SCHMIT
TO CYLINDER UNIT
REG 5V
Q6002 SUPPLY PHOTO SENSOR
D6001 SENSOR LED
Q6003 TAKE UP PHOTO SENSOR
S6001 SAFETY TAB SW
IC6006 T-REEL SENSOR
IC6005 S-REEL SENSOR
TL6012
TL6013
N.SW 5V
TL6001
DS6001
(C)
(A,B)
TO AUDIO/VIDEO SECTION
A.H SW
QR2001
FROM JOG SHUTTLE
P7001
IC6001 SYSTEM CONTROL & SERVO IC
9 CURRENT LIMIT
25 CAP VM CHANG
75 CAP. ET
10 CAP ED/S
70 LOAD (H)
72 UNLOAD (H)
85 CYL. PFG
76 CYL. ET
4 S. PHOTO
3 T. PHOTO
81 S. TAB (L)
78 T.REEL PULSE
77 S.REEL PULSE
1 DEW SNS
47 A.H SW
95 CTL OUT
26 FF/REW (L)
44 JOG B
45 JOG A
TRACKING ENVE 6
ROTARY SW 13
H.A. SW 14
ENVE SELECT 15
VIDEO H.SW 16
P.FAIL OUT 49
P.FAIL IN 73
CAP FG IN 83
16 MHz IN 36
16 MHz OUT 37
CTL. HEAD (–) 89
CTL. HEAD (+) 90
POS. SW2 98
POS. SW3 97
POS. SW1 99
NTSC (L) 58
MESECAM(H) 57
32 KHz IN 39
32 KHz OUT 40
RESET 41
TEST CLK 65
FIP DRV CS 100
TEST TALK 63
TEST LSN 64
IC6002 (RESET)
NON SW 5V
CAP FG 5V
CAPSTAN FG HEAD
X6001
X6002
P4001
CTL HEAD
S6002 MODE SW
N. SW 5V
IC6003 (RESET)
BACK UP 5V
TRACKING ENVE
ROTARY SW
H.A. SW
ENVE SELECT
H. SW
TO/FROM VIDEO SECTION
P OFF (H)
TO TIMER SECTION
NTSC (L)
MESECAM (H)
TO VIDEO SECTION
CLK
CS
S IN
TO TIMER SECTION
S OUT
FROM TIMER SECTION

3-4. FM AUDIO SECTION BLOCK DIAGRAM (NV-HD670BD)

⬅ AUDIO MAIN SIGNAL PATH IN REC MODE

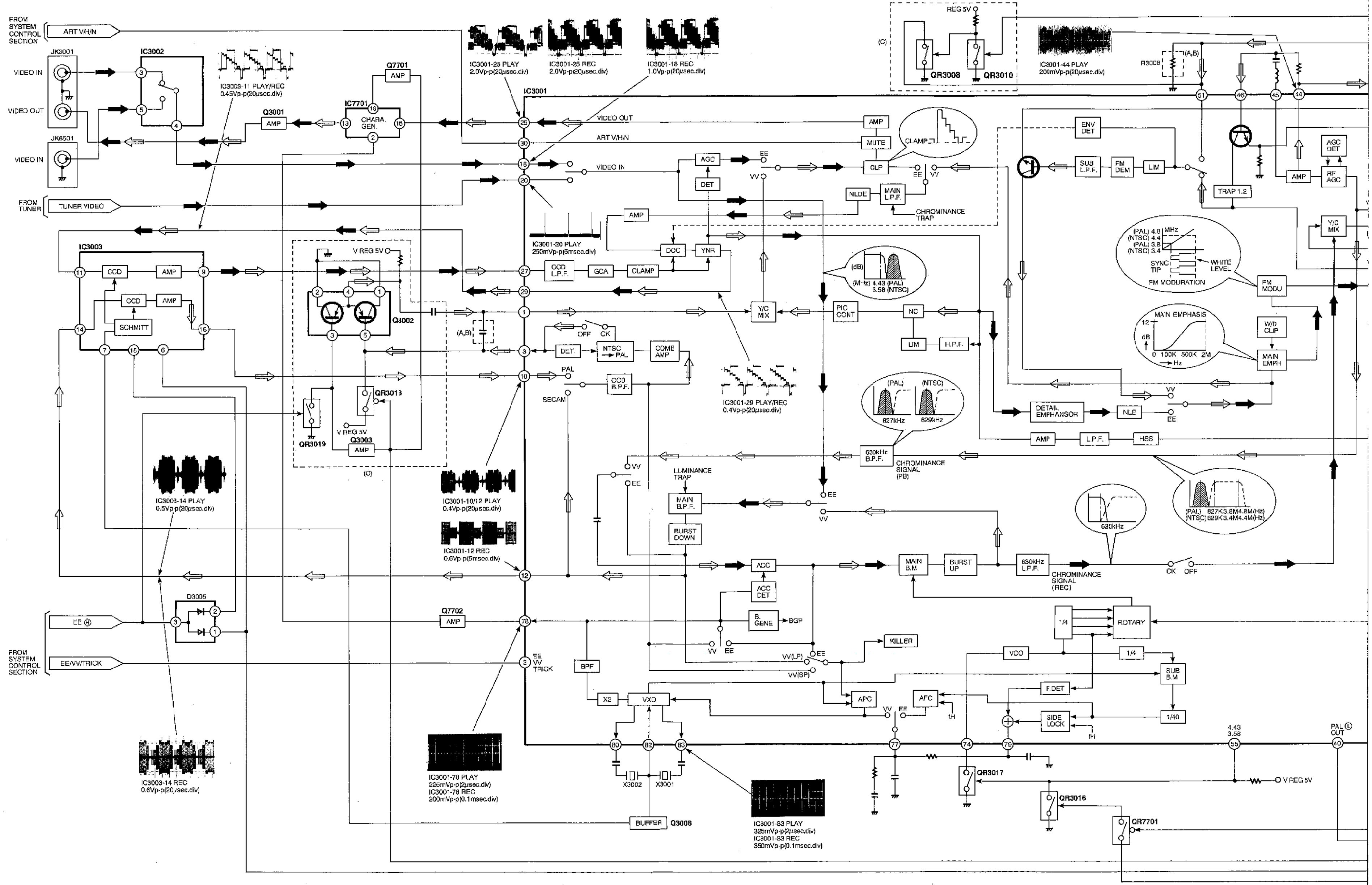
⇦ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


IC501
HiFi AUDIO HEAD (R)
HiFi AUDIO HEAD (L)
P501 10
P501 8
P501 9
PRE AMP
PRE AMP
SW
AMP
REC AMP
AGC
PB ON
P502 2
PP3001 2
P502 6
PP3001 6
P502 1
PP3001 1
A. HEAD SW
FROM SYSTEM CONTROL
HEAD AMP
CARRIER FREQ. (PAL-R)
VR4652
QR4652
VR4509
CARRIER FREQ. (NTSC-R)
IC4501
MODEM
EMPH DOC
L.P.F.-PNR (RCH)
OUTPUT SW AMP
SHWP GEN
FM DET
VR4550
FM BPF
B.P.F.
MODEM
EMPH DOC
L.P.F.-PNR (LCH)
INPUT SW ALC
NTSC Ⓛ / PAL Ⓗ
CARRIER FREQ. (NTSC-L)
VR4501
VR4651
CARRIER FREQ. (PAL-L)
QR4651
PK4002 PK4502 4 4 A.HEAD SW
PK4002 PK4502 5 5 REC IN
PK4002 PK4502 2 2 RF OUT
PK4001 PK4501 7 7 TUNER IN (L)
PK4002 PK4502 6 6 PAL (H)
PK4001 PK4501 5 5 TUNER IN (R)
PK4001 PK4501 1 1 LINE IN (L)
PK4001 PK4501 6 6 LINE IN (R)
PK4001 PK4501 3 3 LINE (H)
TO/FROM AUDIO/VIDEO SECTION
PK4003 PK4503 9 9 NORMAL IN
PK4003 PK4503 7 7 NORMAL OUT
PK4003 PK4503 2 2 A RF OUT
PK4003 PK4503 1 1 LINE OUT (L)
PK4002 PK4502 8 8 LINE OUT (R)
FM AUDIO SECTION

3-5. VIDEO SECTION BLOCK DIAGRAM

◀ VIDEO MAIN SIGNAL PATH IN REC MODE

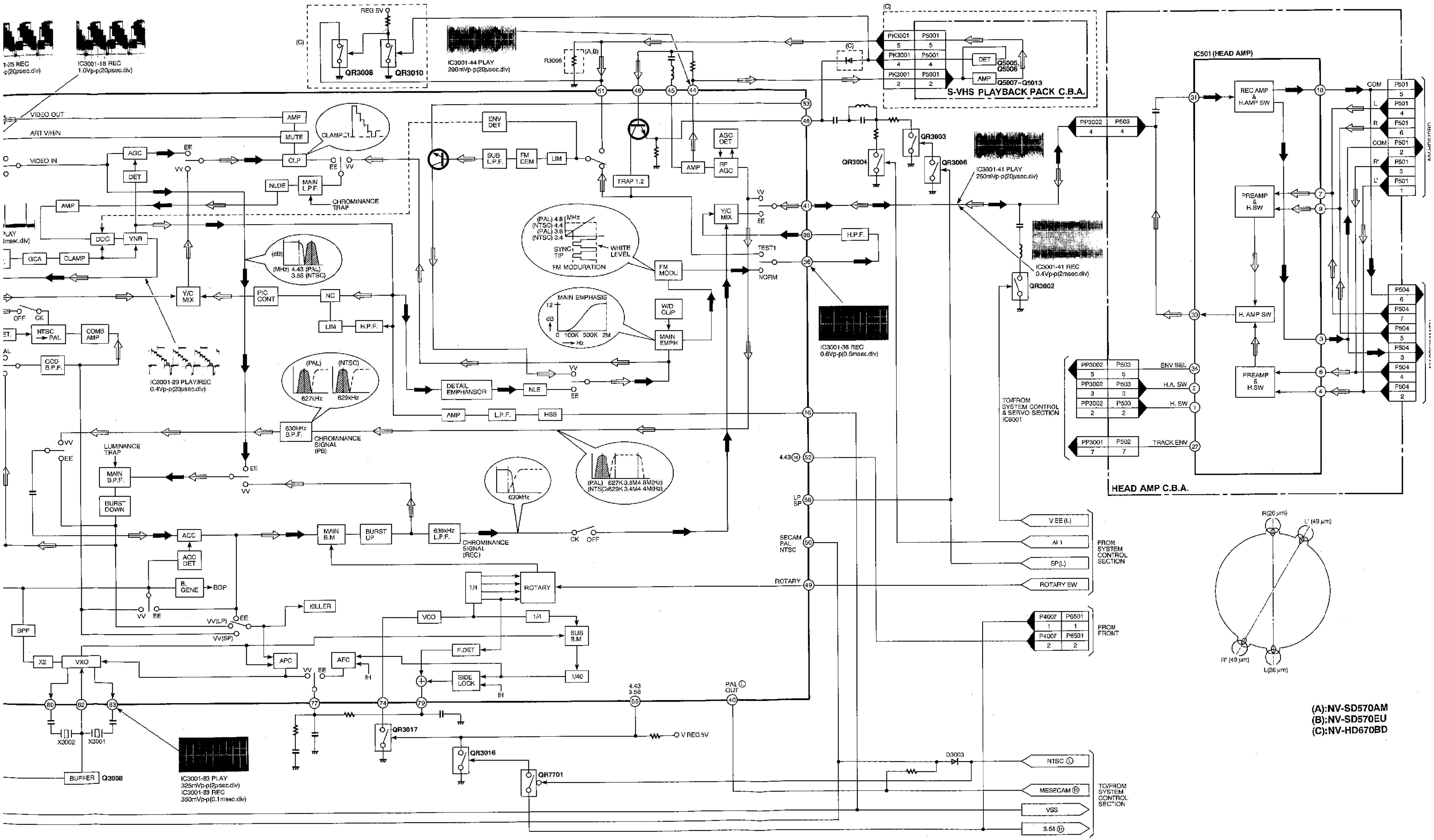
◁ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



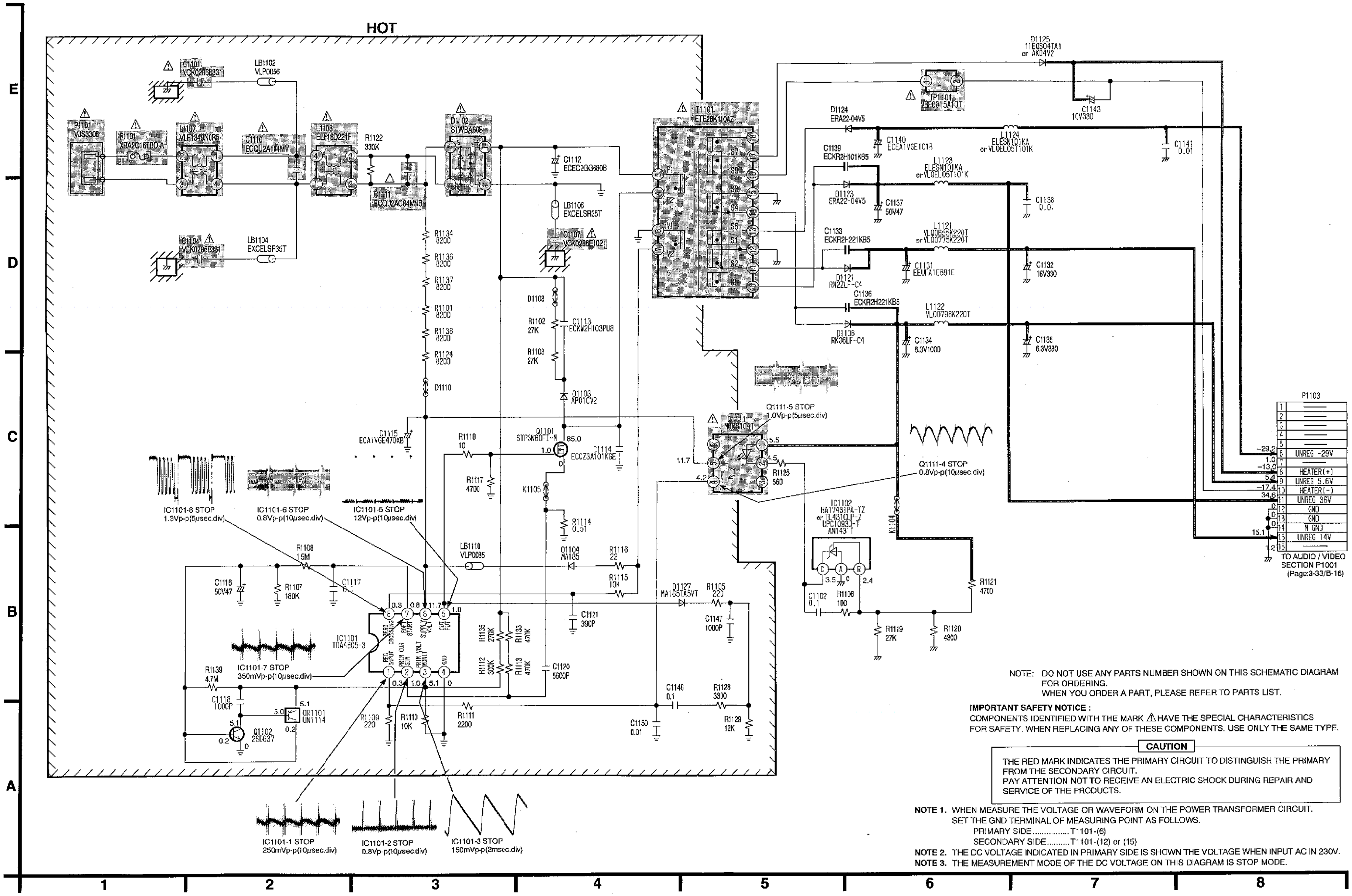
FROM SYSTEM CONTROL SECTION
ART V/H/N
JK3001
VIDEO IN
VIDEO OUT
JK6501
VIDEO IN
FROM TUNER
TUNER VIDEO
IC3002
IC3003-11 PLAY/REC
0.45Vp-p(20μsec.div)
Q7701
AMP
IC7701
CHARA. GEN.
Q3001
AMP
IC3001-25 PLAY
2.0Vp-p(20μsec.div)
IC3001-25 REC
2.0Vp-p(20μsec.div)
IC3001-18 REC
1.0Vp-p(20μsec.div)
IC3001
VIDEO OUT
ART V/H/N
VIDEO IN
IC3001-20 PLAY
250mVp-p(5msec.div)
REG 5V
QR3008
QR3010
(C)
IC3001-44 PLAY
200mVp-p(20μsec.div)
R3006
(A,B)
AMP
MUTE
CLAMP
AGC
DET
CLP
EE
VV
NLDE
MAIN L.P.F.
CHROMINANCE TRAP
AMP
DOC
YNR
CCD L.P.F.
GCA
CLAMP
ENV DET
SUB L.P.F.
FM DEM
LIM
TRAP 1.2
AMP
RF AGC
AGC DET
Y/C MIX
(PAL) 4.8 MHz
(NTSC) 4.4
(PAL) 3.8
(NTSC) 3.4
SYNC TIP
WHITE LEVEL
FM MODURATION
FM MODU
MAIN EMPHASIS
12
dB
0 100K 500K 2M
Hz
W/D CLIP
MAIN EMPH
IC3003
CCD
AMP
SCHMITT
V REG 5V
Q3002
QR3018
QR3019
V REG 5V
Q3003
AMP
(A,B)
OFF
CK
DET.
NTSC → PAL
COMB AMP
PAL
SECAM
CCD B.P.F.
(dB)
(MHz) 4.43 (PAL) 3.58 (NTSC)
Y/C MIX
PIC CONT
NC
LIM
H.P.F.
IC3001-29 PLAY/REC
0.4Vp-p(20μsec.div)
(PAL) (NTSC)
627kHz 629kHz
630kHz B.P.F.
CHROMINANCE SIGNAL (PB)
DETAIL EMPHANSOR
NLE
VV
EE
AMP
L.P.F.
HSS
(PAL) 627K3.8M4.8M(Hz)
(NTSC)629K3.4M4.4M(Hz)
IC3003-14 PLAY
0.5Vp-p(20μsec.div)
IC3001-10/12 PLAY
0.4Vp-p(20μsec.div)
IC3001-12 REC
0.6Vp-p(5msec.div)
LUMINANCE TRAP
MAIN B.P.F.
BURST DOWN
VV
EE
ACC
ACC DET
MAIN B.M
BURST UP
630kHz L.P.F.
630kHz
CHROMINANCE SIGNAL (REC)
CK OFF
B. GENE
BGP
KILLER
VV(LP)
VV(SP)
1/4
ROTARY
VCO
1/4
SUB B.M
F.DET
SIDE LOCK
fH
1/40
APC
AFC
D3005
EE Ⓗ
EE/VV/TRICK
FROM SYSTEM CONTROL SECTION
Q7702
AMP
EE VV TRICK
BPF
X2
VXO
X3002
X3001
BUFFER
Q3008
IC3003-14 REC
0.6Vp-p(20μsec.div)
IC3001-78 PLAY
225mVp-p(2μsec.div)
IC3001-78 REC
200mVp-p(0.1msec.div)
IC3001-83 PLAY
325mVp-p(2μsec.div)
IC3001-83 REC
350mVp-p(0.1msec.div)
4.43 3.58
PAL Ⓛ OUT
V REG 5V
QR3017
QR3016
QR7701

VIDEO MAIN SIGNAL PATH IN REC MODE

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE


REG 5V
QR3008
QR3010
(C)
IC3001-18 REC
1.0Vp-p(20μsec.div)
IC3001-44 PLAY
200mVp-p(20μsec.div)
R3006
(A,B)
PK3001
P5001
DET
AMP
Q5005, Q5006
Q5007~Q5013
S-VHS PLAYBACK PACK C.B.A.
IC501 (HEAD AMP)
REC AMP & H.AMP SW
PREAMP & H.SW
H. AMP SW
COM
P501
P504
PP3002
P503
PP3001
P502
ENV SEL
H.A. SW
H. SW
TRACK ENV
HEAD AMP C.B.A.
TO/FROM SYSTEM CONTROL & SERVO SECTION IC6001
VIDEO OUT
ART V/H/N
VIDEO IN
AGC
DET
AMP
MUTE
CLP
CLAMP
NLDE
MAIN L.P.F.
CHROMINANCE TRAP
ENV DET
SUB L.P.F.
FM DEM
LIM
TRAP 1.2
AGC DET
RF AGC
Y/C MIX
H.P.F.
TEST1
NORM
QR3003
QR3004
QR3006
QR3002
IC3001-41 PLAY
250mVp-p(20μsec.div)
IC3001-41 REC
0.4Vp-p(2msec.div)
IC3001-36 REC
0.6Vp-p(0.5msec.div)
DOC
YNR
GCA
CLAMP
Y/C MIX
PIC CONT
NC
LIM
H.P.F.
(dB)
(MHz) 4.43 (PAL) 3.58 (NTSC)
(PAL) 4.8
(NTSC) 4.4
(PAL) 3.8
(NTSC) 3.4
MHz
SYNC TIP
WHITE LEVEL
FM MODURATION
FM MODU
MAIN EMPHASIS
W/D CLIP
MAIN EMPH
NTSC → PAL
COMB AMP
CCD B.P.F.
IC3001-29 PLAY/REC
0.4Vp-p(20μsec.div)
DETAIL EMPHANSOR
NLE
AMP
L.P.F.
HSS
(PAL) (NTSC)
627kHz 629kHz
630kHz B.P.F.
CHROMINANCE SIGNAL (PB)
(PAL) 627K 3.8M 4.8M(Hz)
(NTSC) 629K 3.4M 4.4M(Hz)
LUMINANCE TRAP
MAIN B.P.F.
BURST DOWN
630kHz
ACC
ACC DET
MAIN B.M
BURST UP
630kHz L.P.F.
CHROMINANCE SIGNAL (REC)
CK OFF
B. GENE
BGP
KILLER
1/4
ROTARY
VCO
SUB B.M
F.DET
SIDE LOCK
1/40
APC
AFC
fH
VV(LP)
VV(SP)
BPF
X2
VXO
X3002
X3001
BUFFER
Q3008
IC3001-83 PLAY
325mVp-p(2μsec.div)
IC3001-83 REC
350mVp-p(0.1msec.div)
QR3017
QR3016
QR7701
4.43 3.58
PAL OUT
V REG 5V
D3003
4.43(H)
LP SP
SECAM PAL NTSC
ROTARY
V EE (L)
AI 1
SP(L)
ROTARY SW
FROM SYSTEM CONTROL SECTION
P4007
P6501
FROM FRONT
NTSC (L)
MESECAM (H)
VSS
3.58 (H)
TO/FROM SYSTEM CONTROL SECTION
EE
VV
R(26μm)
L'(49μm)
R'(49μm)
L(26μm)
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

3-6. POWER SCHEMATIC DIAGRAM


HOT
E
D
C
B
A
1
2
3
4
5
6
7
8
P1101
VJS3306
F1101
XBA2C16TBO-A
L1107
VLF1349N0R5
C1101
VCK0286B331
LB1102
VLP0056
C1110
ECQU2A104MV
L1108
ELF18D221F
R1122
330K
C1111
ECQU2AC04MNB
C1104
VCK0286B331
LB1104
EXCELSF35T
D1102
S1WBA60S
C1112
ECEC2GG680B
LB1106
EXCELSR35T
C1107
VCK0286E102
R1134
8200
R1136
8200
R1137
8200
R1101
8200
R1138
8200
R1124
8200
D1110
D1108
R1102
27K
C1113
ECKW2H103PU8
R1103
27K
D1103
AP01CV2
C1115
ECA1VGE470XB
R1118
10
Q1101
STP3N60FI-M
85.0
1.0
0
C1114
ECCZ3A101KGE
R1117
4700
K1105
R1114
0.51
IC1101-8 STOP
1.3Vp-p(5μsec.div)
IC1101-6 STOP
0.8Vp-p(10μsec.div)
IC1101-5 STOP
12Vp-p(10μsec.div)
R1108
15M
LB1110
VLP0085
D1104
MA185
R1116
22
R1115
10K
C1116
50V47
R1107
180K
C1117
0.1
IC1101
TDA4605-3
ZERO CROSSING
SOFT START
SUPPLY VOLT
OUT PUT
REG INPUT
PRIM CUR SIM
PRIM VOLT MONIT
GND
0.3
0.8
11.7
1.0
0.34
1.0
5.1
0
R1135
270K
R1133
470K
R1112
300K
R1113
470K
C1120
5600P
C1121
390P
D1127
MA165TA5VT
R1105
220
C1147
1000P
IC1101-7 STOP
350mVp-p(10μsec.div)
R1139
4.7M
C1118
1000P
QR1101
UN1114
Q1102
2SD637
5.1
5.0
0.2
R1109
220
R1110
10K
R1111
2200
C1146
0.1
R1128
3300
C1150
0.01
R1129
12K
IC1101-1 STOP
250mVp-p(10μsec.div)
IC1101-2 STOP
0.8Vp-p(10μsec.div)
IC1101-3 STOP
150mVp-p(2msec.div)
T1101
ETE2BK110AZ
P1
P2
V1
V2
S1
S2
S3
S4
S5
S6
S7
S8
D1125
11EQS04TA1
or AK04V2
TP1101
VSF0015A10T
C1143
10V330
D1124
ERA22-04V5
C1140
ECEA1VGE101B
L1124
ELESN101KA
or VLQEL05T101K
C1141
0.01
C1139
ECKR2H101KB5
L1123
ELESN101KA
or VLQEL05T101K
D1123
ERA22-04V5
C1137
50V47
C1138
0.01
C1133
ECKR2H221KB5
L1121
VLQ0655K220T
or VLQ0775K220T
C1131
EEUFA1E681E
C1132
16V330
D1121
RN2ZLF-C4
C1136
ECKR2H221KB5
L1122
VLQ0798K220T
D1136
RK36LF-C4
C1134
6.3V1000
C1135
6.3V330
Q1111-5 STOP
1.0Vp-p(5μsec.div)
Q1111
MOC8104T
5.5
4.5
11.7
4.2
R1125
560
Q1111-4 STOP
0.8Vp-p(10μsec.div)
IC1102
HA17431PA-TZ
or TL431CLP-Z
UPC1093J-T
AN1431T
C
A
R
3.5
0
2.4
K1104
C1102
0.1
R1106
100
R1121
4700
R1119
27K
R1120
4300
P1103
1
2
3
4
5
6 UNREG -29V
7
8 HEATER(+)
9 UNREG 5.6V
10 HEATER(-)
11 UNREG 36V
12 GND
13 GND
14 M GND
15 UNREG 14V
16
-29.2
1.0
-13.0
5.4
-17.4
34.6
0
0
0
15.1
1.2
TO AUDIO / VIDEO
SECTION P1001
(Page:3-33/B-16)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT.
SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE……………T1101-(6)
SECONDARY SIDE………T1101-(12) or (15)

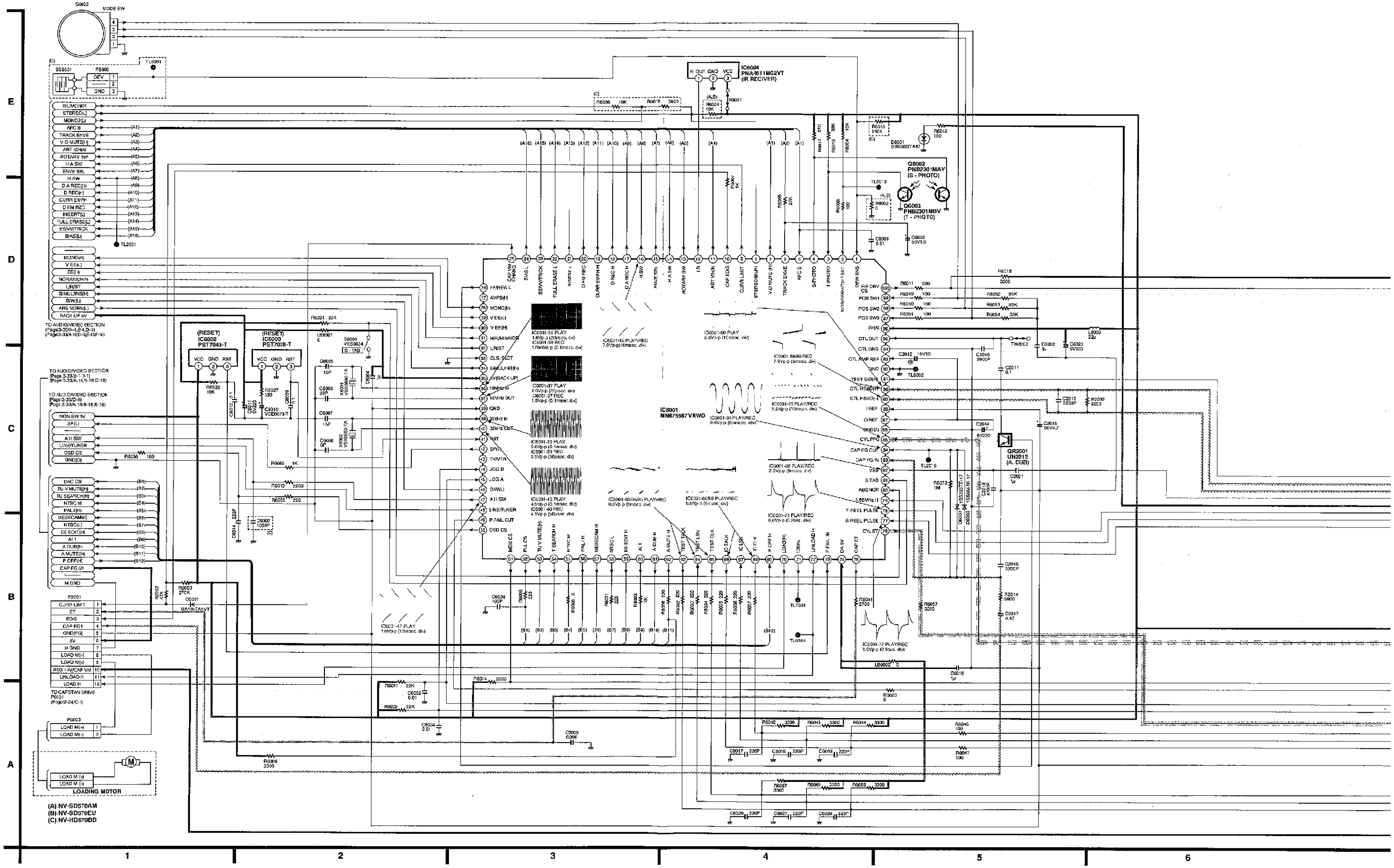
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IN 230V.

NOTE 3. THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-7. SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION IN MAIN SCHEMATIC DIAGRAM

CAPSTAN SERVO PHASE LOOP

CAPSTAN SERVO SPEED LOOP



S6002
MODE SW
DS6001
P6002
DEV
GND
TL6001
IC6004
PNA4611M02VT
(IR RECIVER)
R OUT
GND
VCC
IC6001
MN675567VRWD
IC6002
PST7043-T
(RESET)
IC6003
PST7026-T
(RESET)
Q6002
PNB2301MAV
(S - PHOTO)
Q6003
PNB2301MBV
(T - PHOTO)
QR2001
UN2212
(A. DUB)
TO AUDIO/VIDEO SECTION
TO CAPSTAN DRIVE
P6001
P6003
LOAD M (+)
LOAD M (-)
LOADING MOTOR
IC6001-84 PLAY/REC
0.6Vp-p (0.5msec. div)
IC6001-89/90 REC
7.0Vp-p (5msec. div)
IC6001-02 PLAY/REC
2.0Vp-p (5msec. div)
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD
A
B
C
D
E
1
2
3
4
5
6

CYLINDER SERVO PHASE LOOP

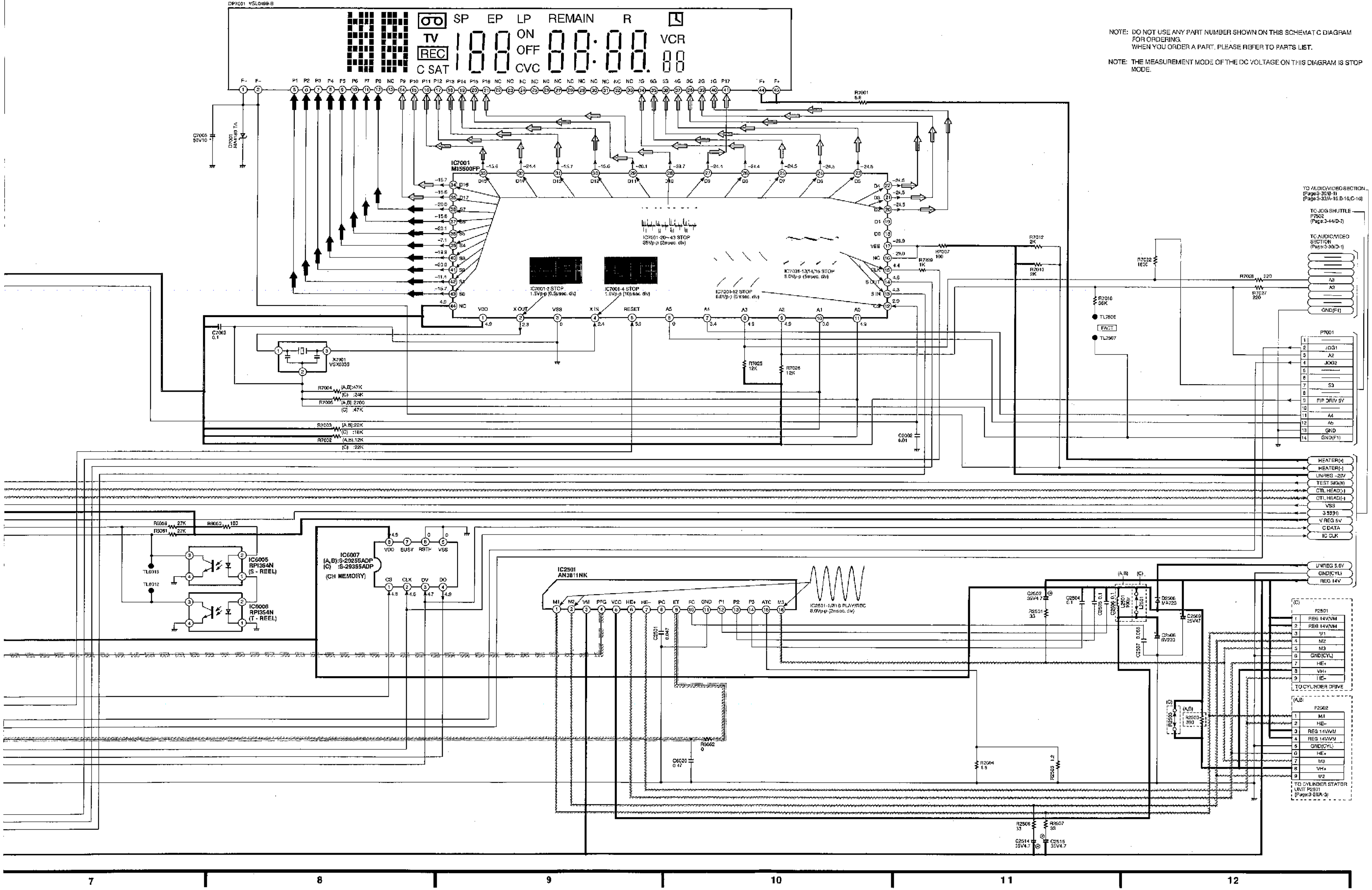
CYLINDER SERVO SPEED LOOP

GRID CONTROL SIGNAL PATH

SEGMENT CONTROL SIGNAL PATH

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

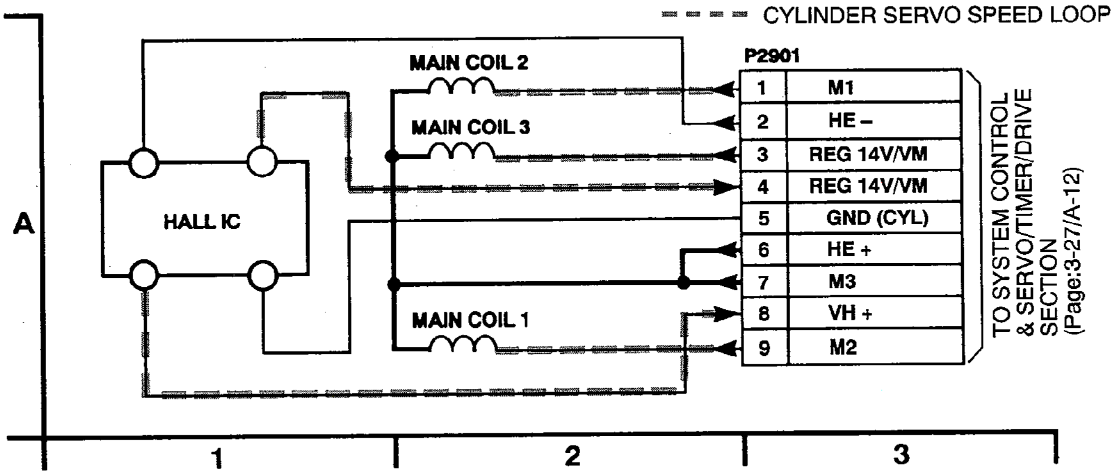


DP7001 VSL0469-B
SP EP LP REMAIN R
TV ON OFF VCR
REC
C SAT CVC
IC7001
M15500FP
IC7001-2 STOP
IC7001-4 STOP
IC7001-20~43 STOP
IC7001-12 STOP
IC7001-13/14/15 STOP
X7001
VSX0339
C7003
0.1
C7005
50V10
D7001
R7001
R7002
R7003
R7004
R7005
R7006
R7007
R7009
R7010
R7011
R7012
R7025
R7026
R7027
R7028
R7032
C6002
0.01
TL7506
TL7507
IC6005
RP1354N
(S - REEL)
IC6006
RP1354N
(T - REEL)
TL6013
TL6012
R6058
R6061
R6062
IC6007
(A,B):S-29255ADP
(C) :S-29355ADP
(CH MEMORY)
VDD BUSY RSTB VSS
CS CLK DV DO
IC2501
AN3811NK
M1 M2 VM PFG VCC HE- HE+ PC ET FC GND P1 P2 P3 ATC M3
IC2501-1/2/16 PLAY/REC
C2501
C6020
R6062
R2504
R2503
R2505
R2507
C2514
C2515
C2502
C2504
C2505
C2506
C2507
C2509
D2508
L2501
R2501
R2502
TO AUDIO/VIDEO SECTION
TO JOG SHUTTLE
P7502
TO AUDIO/VIDEO SECTION
A3
A2
GND(F1)
P7001
JOG1
A2
JOG2
S3
FIP DRIV 5V
A4
A5
GND
GND(F1)
HEATER(+)
HEATER(-)
UNREG -22V
TEST SIG(M)
CYL HEAD(+)
CTL HEAD(-)
VSS
3.58(M)
V REG 5V
C DATA
IC CLK
UNREG 5.6V
GND(CYL)
REG 14V
(C)
P2501
REG 14V/VM
REG 14V/VM
M1
M2
M3
GND(CYL)
HE+
VH+
HE-
TO CYLINDER DRIVE
(A,B)
P2502
M1
HE-
REG 14V/VM
REG 14V/VM
GND(CYL)
HE+
M3
VH+
M2
TO CYLINDER STATOR UNIT P2501
7
8
9
10
11
12

SYSTEM CONTROL & SERVO DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	14.9	15.1	14.7	1.3	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	15.2				
PLAY	14.9	13.8	14.7	1.0	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.9				
REC	14.9	13.8	14.7	1.3	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	14.6				
F.F	14.3	14.6	14.4	1.2	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.6				
REW	14.0	14.6	14.4	1.0	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.6				
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	5.0	4.6	4.9	3.1	2.1	0	4.9	0	0	0	4.9	0	0	1.9	4.9	0	0	0	0
PLAY	0	5.0	4.2	4.9	3.7	2.6	0	4.9	5.0	0	0	4.9	5.0	0	4.8	4.9	0	0	0	0
REC	0	5.0	4.4	4.9	3.0	2.1	0	4.9	5.0	0	0	4.9	5.0	0	0	4.9	4.9	4.9	0	5.0
F.F	0	5.0	4.6	4.9	3.7	1.9	0	4.9	5.0	0	0	4.9	0	0	0	4.9	0	0	0	0
REW	0	5.0	4.6	4.9	3.7	1.9	0	4.9	5.0	5.0	0	4.9	0	0	3.6	4.9	0	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	5.0	4.9	5.0	0	4.9	0	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
PLAY	5.0	5.0	2.2	5.0	0	4.9	5.0	0	4.9	0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
REC	5.0	0.1	4.9	0.1	0	4.9	0	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
F.F	5.0	5.0	4.9	5.0	4.8	0	0.8	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
REW	5.0	1.2	1.2	5.0	4.8	1.3	0	1.3	0	1.3	4.9	0	0	5.0	1.3	–	–	0	2.1	2.7
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
PLAY	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REC	5.0	0	5.0	4.9	4.9	5.0	0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
F.F	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REW	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	0	2.4	5.0	5.0	4.9	4.4
PLAY	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.3	2.4	5.0	5.0	4.9	4.4
REC	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.3	2.4	5.0	5.0	4.9	4.4
F.F	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.7	2.4	2.2	2.4	4.9	4.4
REW	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.7	2.4	2.2	2.4	4.9	4.4
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
PLAY	5.0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
REC	0	2.4	–	–	1.3	0	2.5	2.4	3.7	3.6	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
F.F	0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	4.9	0	3.0
REW	0	2.4	–	–	1.3	0	2.5	2.4	1.4	2.4	0	0	2.4	0	2.5	5.0	4.9	4.9	0	3.0
REF. NO.	IC6002					IC6003					IC6004					IC6005				
MODE	1	2	3			1	2	3			1	2	3			1	2	3	4	
STOP	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
PLAY	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
REC	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
F.F	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	2.6	0	
REW	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	2.5	0	
REF. NO.	IC6006										Q6002			Q6003			QR2001			
MODE	1	2	3	4							+	–		+	–		E	C	B	
STOP	0	1.0	0	0							4.8	0		4.6	0		0	0	4.9	
PLAY	0	1.0	0	5.0							4.8	0		4.1	0		0	0	4.9	
REC	0	1.0	0	5.0							4.8	0		4.6	0		0	0	4.9	
F.F	0	1.0	0	2.5							4.8	0		4.6	0		0	1.5	0	
REW	0	1.0	0	2.2							4.8	0		4.6	0		0	1.5	0	

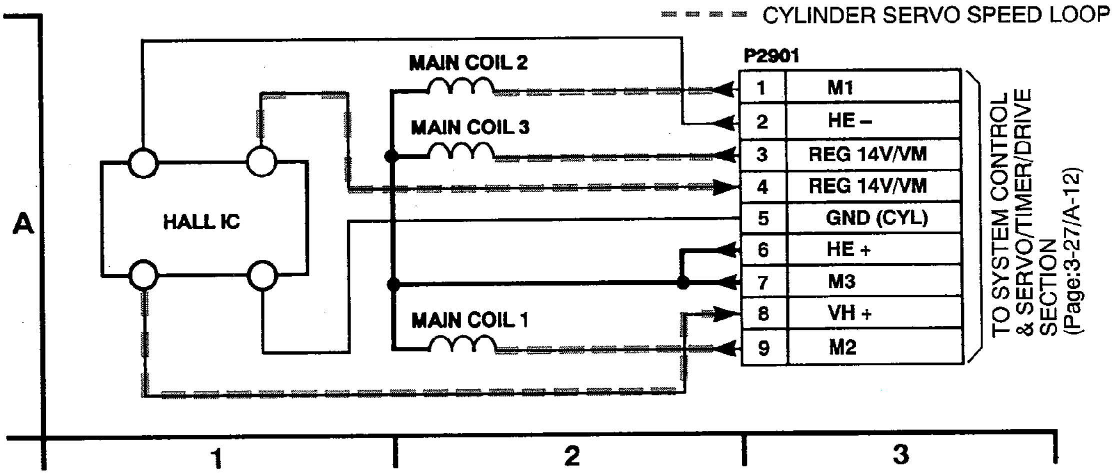
3-8. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM (NV-SD570AM/EU)



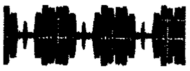
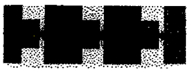
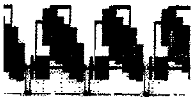
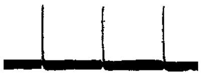
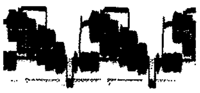
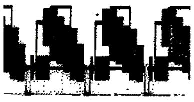
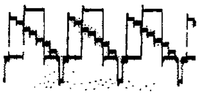
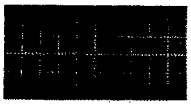
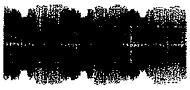
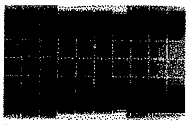
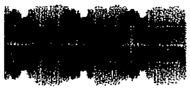
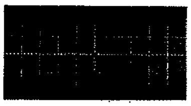
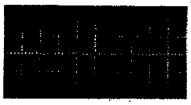
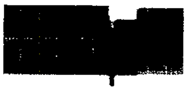
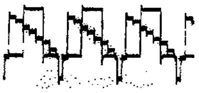
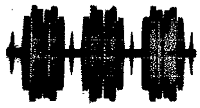
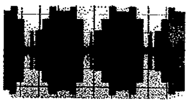
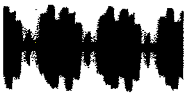
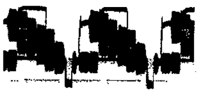
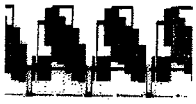
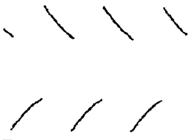
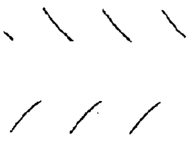
SYSTEM CONTROL & SERVO DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	14.9	15.1	14.7	1.3	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	15.2				
PLAY	14.9	13.8	14.7	1.0	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.9				
REC	14.9	13.8	14.7	1.3	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	14.6				
F.F	14.3	14.6	14.4	1.2	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.6				
REW	14.0	14.6	14.4	1.0	5.0	2.4	2.5	0.5	2.4	1.3	0	3.6	3.8	3.7	0	13.6				
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	5.0	4.6	4.9	3.1	2.1	0	4.9	0	0	0	4.9	0	0	1.9	4.9	0	0	0	0
PLAY	0	5.0	4.2	4.9	3.7	2.6	0	4.9	5.0	0	0	4.9	5.0	0	4.8	4.9	0	0	0	0
REC	0	5.0	4.4	4.9	3.0	2.1	0	4.9	5.0	0	0	4.9	5.0	0	0	4.9	4.9	4.9	0	5.0
F.F	0	5.0	4.6	4.9	3.7	1.9	0	4.9	5.0	0	0	4.9	0	0	0	4.9	0	0	0	0
REW	0	5.0	4.6	4.9	3.7	1.9	0	4.9	5.0	5.0	0	4.9	0	0	3.6	4.9	0	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	5.0	4.9	5.0	0	4.9	0	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
PLAY	5.0	5.0	2.2	5.0	0	4.9	5.0	0	4.9	0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
REC	5.0	0.1	4.9	0.1	0	4.9	0	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
F.F	5.0	5.0	4.9	5.0	4.8	0	0.8	0	0	5.0	4.9	0	0	5.0	5.0	–	–	0	2.1	2.7
REW	5.0	1.2	1.2	5.0	4.8	1.3	0	1.3	0	1.3	4.9	0	0	5.0	1.3	–	–	0	2.1	2.7
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
PLAY	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REC	5.0	0	5.0	4.9	4.9	5.0	0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
F.F	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REW	5.0	0	5.0	4.9	4.9	5.0	5.0	4.9	5.0	4.3	4.8	0	0	0	0	0	0.1	4.9	0	0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	0	2.4	5.0	5.0	4.9	4.4
PLAY	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.3	2.4	5.0	5.0	4.9	4.4
REC	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.3	2.4	5.0	5.0	4.9	4.4
F.F	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.7	2.4	2.2	2.4	4.9	4.4
REW	0	0	4.3	4.6	4.4	4.6	4.9	4.6	0	0	2.6	0	4.9	5.0	2.7	2.4	2.2	2.4	4.9	4.4
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
PLAY	5.0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
REC	0	2.4	–	–	1.3	0	2.5	2.4	3.7	3.6	0	0	2.4	0	2.5	5.0	4.9	0	0	3.1
F.F	0	2.4	–	–	1.3	0	2.5	2.4	2.4	2.4	0	0	2.4	0	2.5	5.0	4.9	4.9	0	3.0
REW	0	2.4	–	–	1.3	0	2.5	2.4	1.4	2.4	0	0	2.4	0	2.5	5.0	4.9	4.9	0	3.0
REF. NO.	IC6002					IC6003					IC6004					IC6005				
MODE	1	2	3			1	2	3			1	2	3			1	2	3	4	
STOP	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
PLAY	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
REC	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	5.0	0	
F.F	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	2.6	0	
REW	5.0	0	4.9			5.0	0	5.0			4.9	0	5.0			1.0	2.2	2.5	0	
REF. NO.	IC6006										Q6002			Q6003			QR2001			
MODE	1	2	3	4							+	–		+	–		E	C	B	
STOP	0	1.0	0	0							4.8	0		4.6	0		0	0	4.9	
PLAY	0	1.0	0	5.0							4.8	0		4.1	0		0	0	4.9	
REC	0	1.0	0	5.0							4.8	0		4.6	0		0	0	4.9	
F.F	0	1.0	0	2.5							4.8	0		4.6	0		0	1.5	0	
REW	0	1.0	0	2.2							4.8	0		4.6	0		0	1.5	0	

3-8. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM (NV-SD570AM/EU)



AUDIO/VIDEO MAIN WAVEFORM CHART (SP MODE)

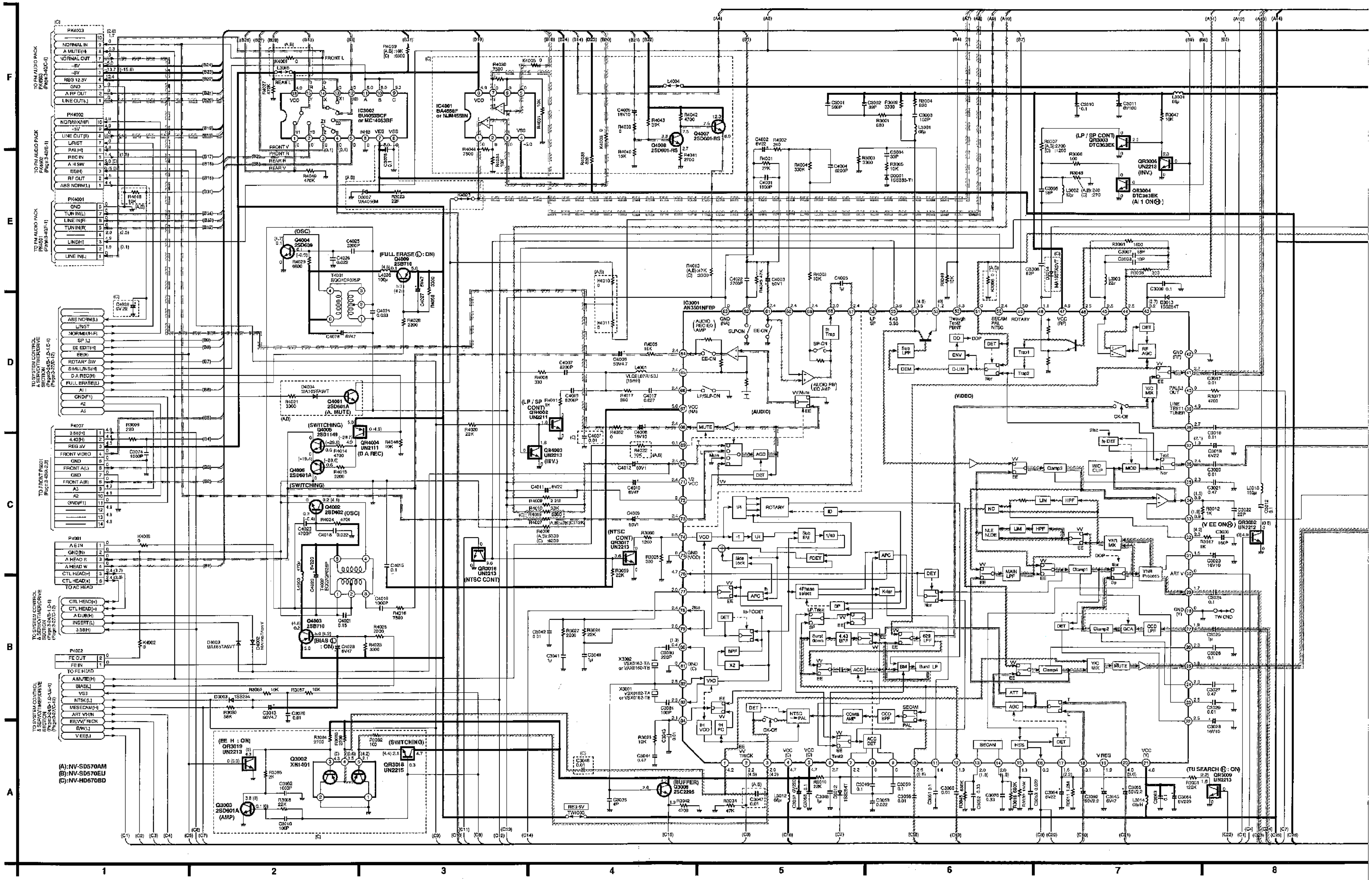
 IC3001-10/12 PLAY 0.4Vp-p (20µsec. div)	 IC3001-12 REC 0.6Vp-p (5msec. div)	 IC3001-18 REC 1.0Vp-p (20µsec. div)	 IC3001-20 PLAY 250mVp-p (5msec. div)
 IC3001-25 PLAY 2.0Vp-p (20µsec. div)	 IC3001-25 REC 2.0Vp-p (20µsec. div)	 IC3001-29 PLAY/REC 0.4Vp-p (20µsec. div)	 IC3001-36 REC 0.6Vp-p (0.5msec. div)
 IC3001-41 PLAY 250mVp-p (20µsec. div)	 IC3001-41 REC 0.4Vp-p (2msec. div)	 IC3001-44 PLAY 200mVp-p (20µsec. div)	 IC3001-78 PLAY 225mVp-p (2µsec. div) IC3001-78 REC 200mVp-p (0.1msec. div)
 IC3001-83 PLAY 325mVp-p (2µsec. div) IC3001-83 REC 350mVp-p (0.1msec. div)	 IC3003-9 PLAY/REC 1.2Vp-p (1msec. div)	 IC3003-11 PLAY/REC 450mVp-p (20µsec. div)	 IC3003-14 PLAY 0.5Vp-p (20µsec. div)
 IC3003-14 REC 0.6Vp-p (20µsec. div)	 IC3003-16 PLAY 0.6Vp-p (20µsec. div)	 IC7701-13 PLAY 2.0Vp-p (20µsec. div)	 IC7701-13 REC 2.0Vp-p (20µsec. div)
 PP3001-6 PLAY 7.0Vp-p (10msec. div)	 PP3002-2 PLAY/REC 7.0Vp-p (10msec. div)		

IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

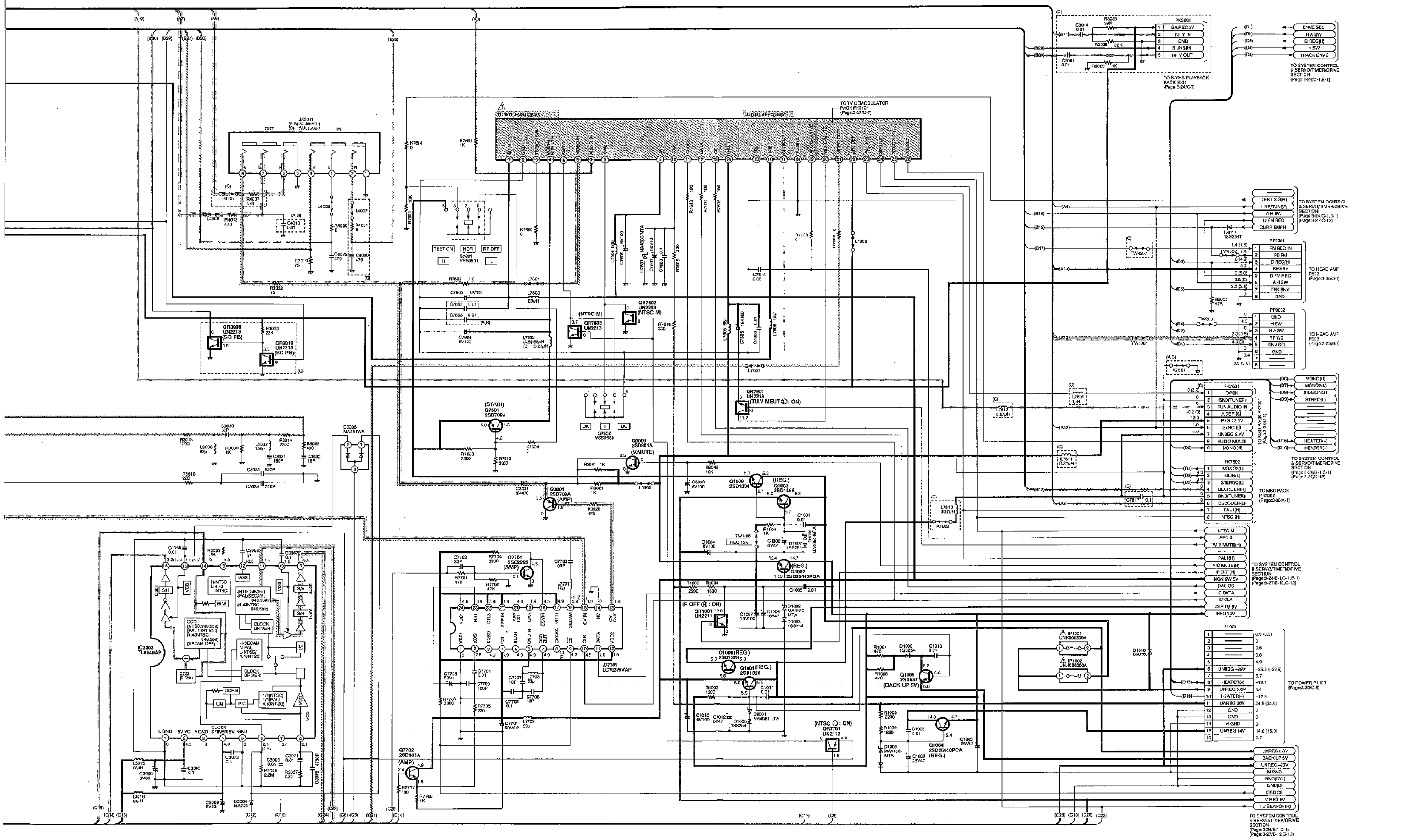
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

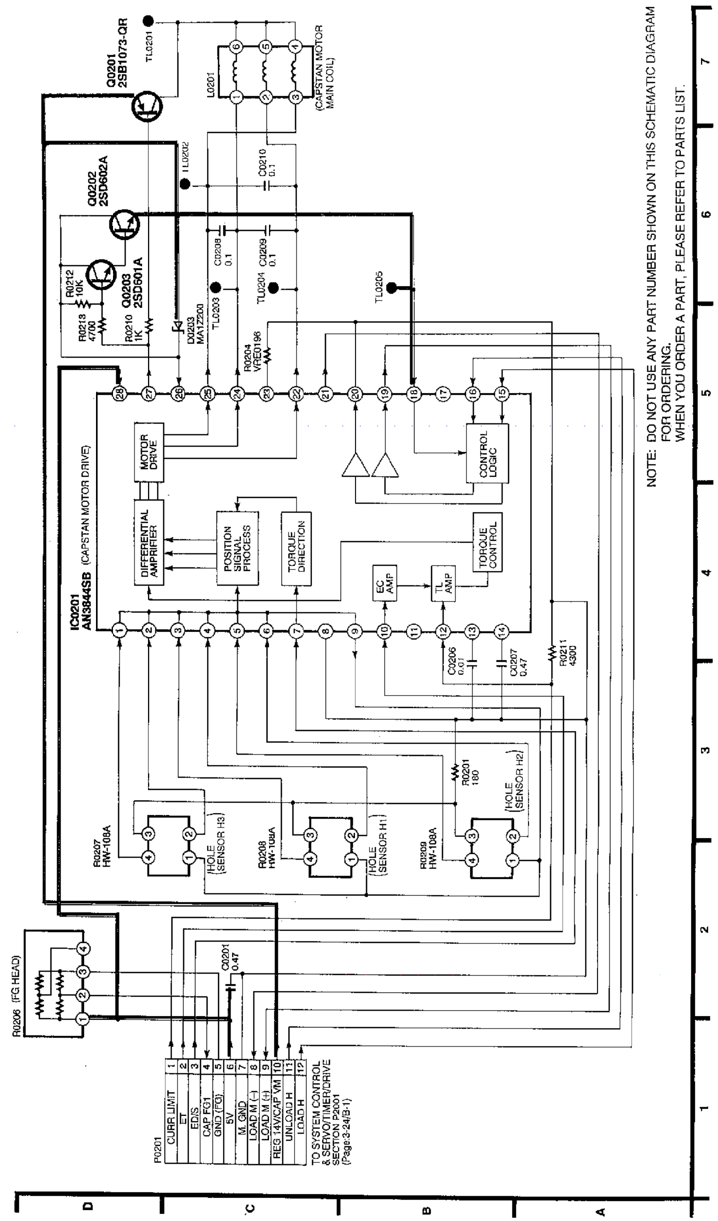
3-9. AUDIO / VIDEO SECTION IN MAIN SCHEMATIC DIAGRAM


F
E
D
C
B
A
1
2
3
4
5
6
7
8
TO FM AUDIO PACK
TO SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION
TO FRONT PACK
TO AC HEAD
TO FE HEAD
IC3002 BU4053BCF or MC14053BF
IC4001 BA4558F or NJM4558N
IC3001 AN3301NFBP
Q4004 2SD639 (OSC)
Q4009 2SB710
Q4001 2SD601A (A. MUTE)
Q4005 2SD1149 (SWITCHING)
Q4006 2SD601A
Q4002 2SD602 (OSC)
Q4003 2SB710 (BIAS ON)
Q4007 2SC601-RS
Q4008 2SD601-RS
QR4002 UN2211 (LP / SP CONT)
QR4003 UN2213 (INV.)
QR4004 UN2111 (D A REC)
QR3016 UN2213 (NTSC CONT)
QR3017 UN2213 (NTSC CONT)
QR3003 DTC363EK (LP / SP CONT)
QR3006 UN2213 (INV.)
QR3004 DTC363EK (A/1 ON)
QR3002 UN2212 (V EE ON)
QR3009 UN2213 (TU SEARCH ON)
QR3019 UN2213 (EE H : ON)
QR3018 UN2215 (SWITCHING)
Q3002 XN1401
Q3003 2SD601A (AMP)
Q3008 2SC2295 (BUFFER)
(FULL ERASE ON)
(AUDIO)
(VIDEO)
ROTARY
MUTE
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE   VIDEO MAIN SIGNAL PATH IN REC MODE   AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE   AUDIO MAIN SIGNAL PATH IN REC MODE

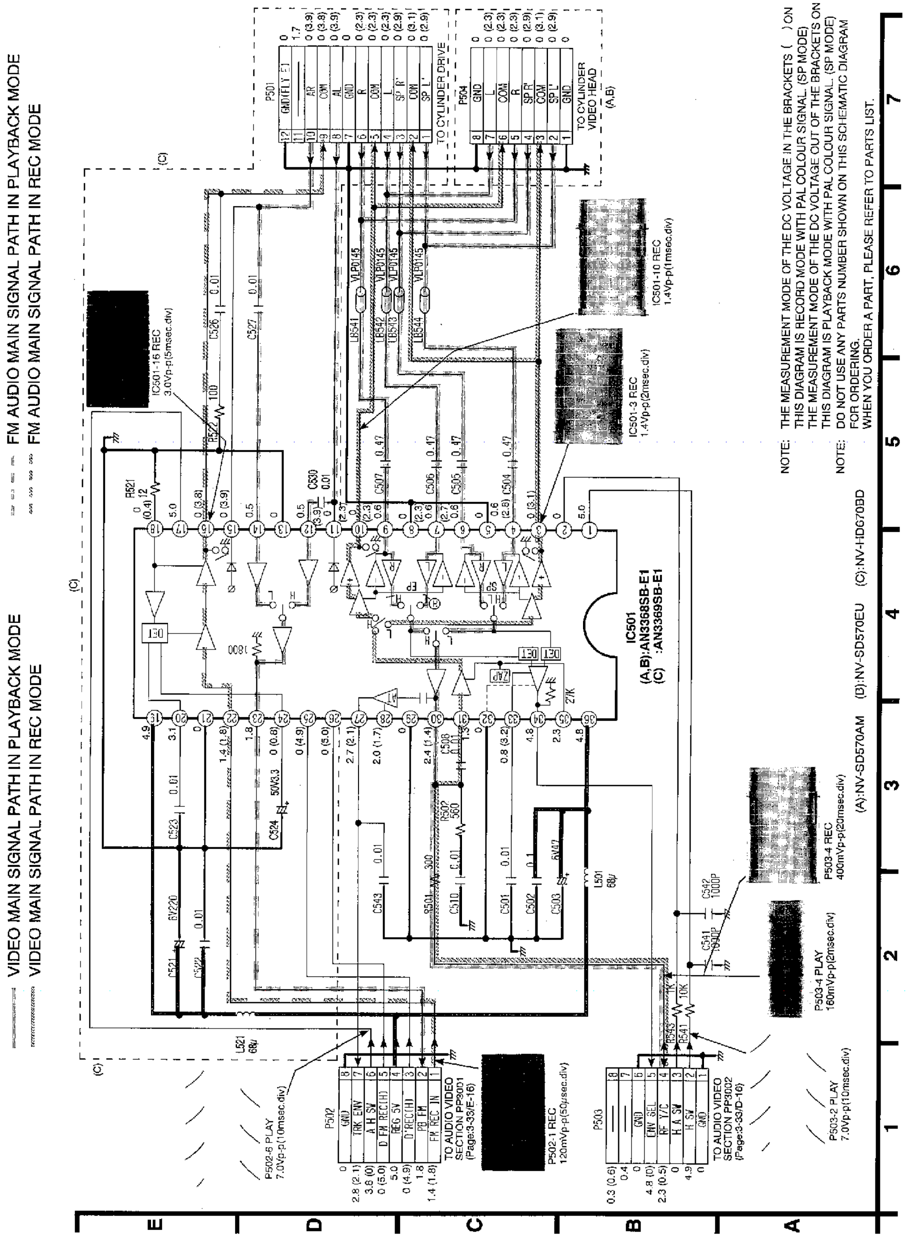

TO TV DEMODULATOR PACK (P6701)
TO S-VHS PLAYBACK PACK SC31
TO SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION
TO HEAD AMP
TO MSD PACK
TO POWER P1103
ENVE SEL
H.A SW
D REC(H)
H SW
TRACK ENVE
TEST SIG(H)
LINE/TUNER
A.H SW
D FM REC
CURR EMPH
HEATER(+)
HEATER(-)
INTEG M
AFC S
TU V MUTE(H)
PAL(H)
V.O MUTE(H)
P OFF(H)
NON SW 5V
DAC CS
IC DATA
IC CLK
CAP FG 5V
REG 14V
UNREG 5.6V
BACK UP 5V
UNREG -29V
M GND
GND(CYL)
GND(D)
OSD CS
V REG 5V
TU SEARCH(H)
TEST ON
NOR
RF OFF
S7601 VSS0531
S7602 VSS3531
(STABI) Q7601 2SB709A
Q3001 2SB709A (AMP)
Q3009 2SD601A (V.MUTE)
QR7601 UN2213 (TU.V MUTE: ON)
QR7602 UN2213 (NTSC M)
QR7603 UN2213
QR3008 UN2213 (SQ PB)
QR3010 UN2213 (SC PB)
D3305 MA151WA
Q1008 2SD1330
(REG.) Q1003 2SD1455
(REG.) Q1002 2SD2440PQA
(P OFF: ON) QR1001 UN2211
Q1009 (REG.)
Q1001 (REG.) 2SB1326
Q1005 2SB637 (BACK UP 5V)
Q1004 2SD2440PQA (REG.)
(NTSC: ON) QR7701 UN2113
Q7701 2SC2295 (AMP)
Q7702 2SD601A (AMP)
IC7701
IC3003 TL8649AP
CCD
CLOCK DRIVER
VCO
P1001
PF3001
PF3002
PK7601
PK7602
9
10
11
12
13
14
15
16

3-10. CAPSTANDRIVE UNIT SCHEMATIC DIAGRAM


Q0201 2SB1073-QR
Q0202 2SD602A
Q0203 2SD601A
L0201 (CAPSTAN MOTOR MAIN COIL)
IC0201 AN3844SB (CAPSTAN MOTOR DRIVE)
MOTOR DRIVE
DIFFERENTIAL AMPRIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
TORQUE CONTROL
CONTROL LOGIC
EC AMP
TL AMP
R0206 (FG HEAD)
R0207 HW-108A (HOLE SENSOR H3)
R0208 HW-108A (HOLE SENSOR H1)
R0209 HW-108A (HOLE SENSOR H2)
P0201
CURR LIMIT
ET
EDIS
CAP FG1
GND (FG)
5V
M.GND
LOAD M (-)
LOAD M (+)
REG 14V/CAP VM
UNLOAD H
LOAD H
TO SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION P3001 (Page:3-24/B-1)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-11. HEAD AMP SCHEMATIC DIAGRAM


IC501 (A,B):AN3368SB-E1 (C) :AN3369SB-E1
P501
TO CYLINDER DRIVE
P504
TO CYLINDER VIDEO HEAD (A,B)
P502
TO AUDIO VIDEO SECTION PP3001 (Page:3-33/E-16)
P503
TO AUDIO VIDEO SECTION PP3002 (Page:3-33/D-16)
IC501-16 REC 3.0Vp-p(5msec.div)
IC501-3 REC 1.4Vp-p(2msec.div)
IC501-10 REC 1.4Vp-p(1msec.div)
P503-4 REC 400mVp-p(20msec.div)
P503-4 PLAY 160mVp-p(2msec.div)
P503-2 PLAY 7.0Vp-p(10msec.div)
P502-1 REC 120mVp-p(50μsec.div)
P502-6 PLAY 7.0Vp-p(10msec.div)

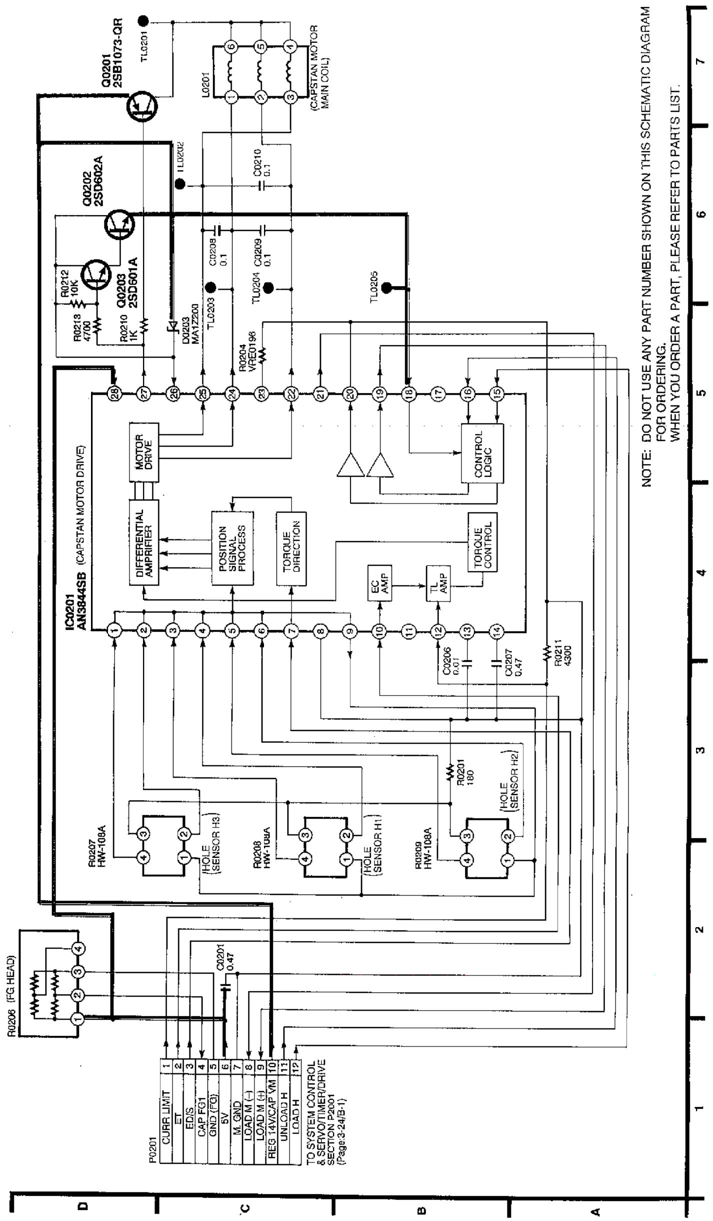
FM AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
FM AUDIO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
VIDEO MAIN SIGNAL PATH IN REC MODE

(A):NV-SD570AM (B):NV-SD570EU (C):NV-HD670BD

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL (SP MODE) THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL (SP MODE)

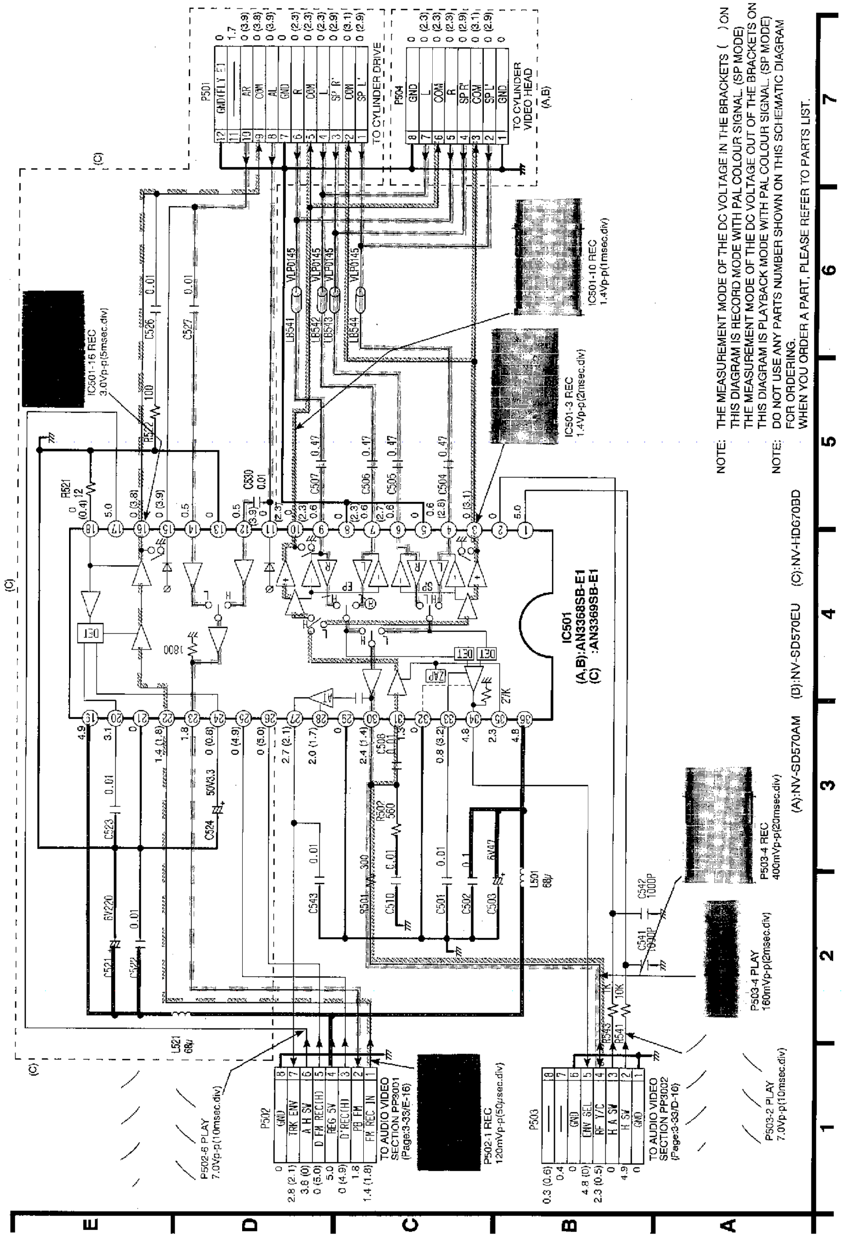
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-10. CAPSTANDRIVE UNIT SCHEMATIC DIAGRAM


IC0201
AN3844SB (CAPSTAN MOTOR DRIVE)
Q0201
2SB1073-QR
Q0202
2SD602A
Q0203
2SD601A
MOTOR DRIVE
DIFFERENTIAL AMPRIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
TORQUE CONTROL
CONTROL LOGIC
EC AMP
TL AMP
L0201
(CAPSTAN MOTOR MAIN COIL)
R0206 (FG HEAD)
R0207 HW-108A
R0208 HW-108A
R0209 HW-108A
(HOLE SENSOR H3)
(HOLE SENSOR H1)
(HOLE SENSOR H2)
D0203 MA1Z200
R0204 VREO198
C0201 0.47
C0206 0.01
C0207 0.47
C0208 0.1
C0209 0.1
C0210 0.1
R0210 1K
R0212 10K
R0213 4700
R0211 4300
R0201 180
P0201
CURR LIMIT
ET
EDIS
CAP FG1
GND (FG)
5V
M GND
LOAD M (-)
LOAD M (+)
REG 14V/CAP VM
UNLOAD H
LOAD H
TO SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION P2001 (Page:3-24/B-1)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-11. HEAD AMP SCHEMATIC DIAGRAM


IC501
(A,B):AN3368SB-E1
(C) :AN3369SB-E1
P501
TO CYLINDER DRIVE
P504
TO CYLINDER VIDEO HEAD (A,B)
P502
TO AUDIO VIDEO SECTION PP3001 (Page:3-33/E-16)
P503
TO AUDIO VIDEO SECTION PP3002 (Page:3-33/D-16)
IC501-15 REC
3.0Vp-p(5msec.div)
IC501-3 REC
1.4Vp-p(2msec.div)
IC501-10 REC
1.4Vp-p(1msec.div)
P502-1 REC
120mVp-p(50μsec.div)
P502-6 PLAY
7.0Vp-p(10msec.div)
P503-4 PLAY
160mVp-p(2msec.div)
P503-4 REC
400mVp-p(20msec.div)
P503-2 PLAY
7.0Vp-p(10msec.div)
L501 68μ
L521 68μ
GND
TRK ENV
A.H SW
D FM REC(H)
REG 5V
D REC(H)
PB FM
FM REC IN
ENV DET
RF T/C
H.A SW
H.SW
SP L
SP R
COM

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
VIDEO MAIN SIGNAL PATH IN REC MODE
FM AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
FM AUDIO MAIN SIGNAL PATH IN REC MODE

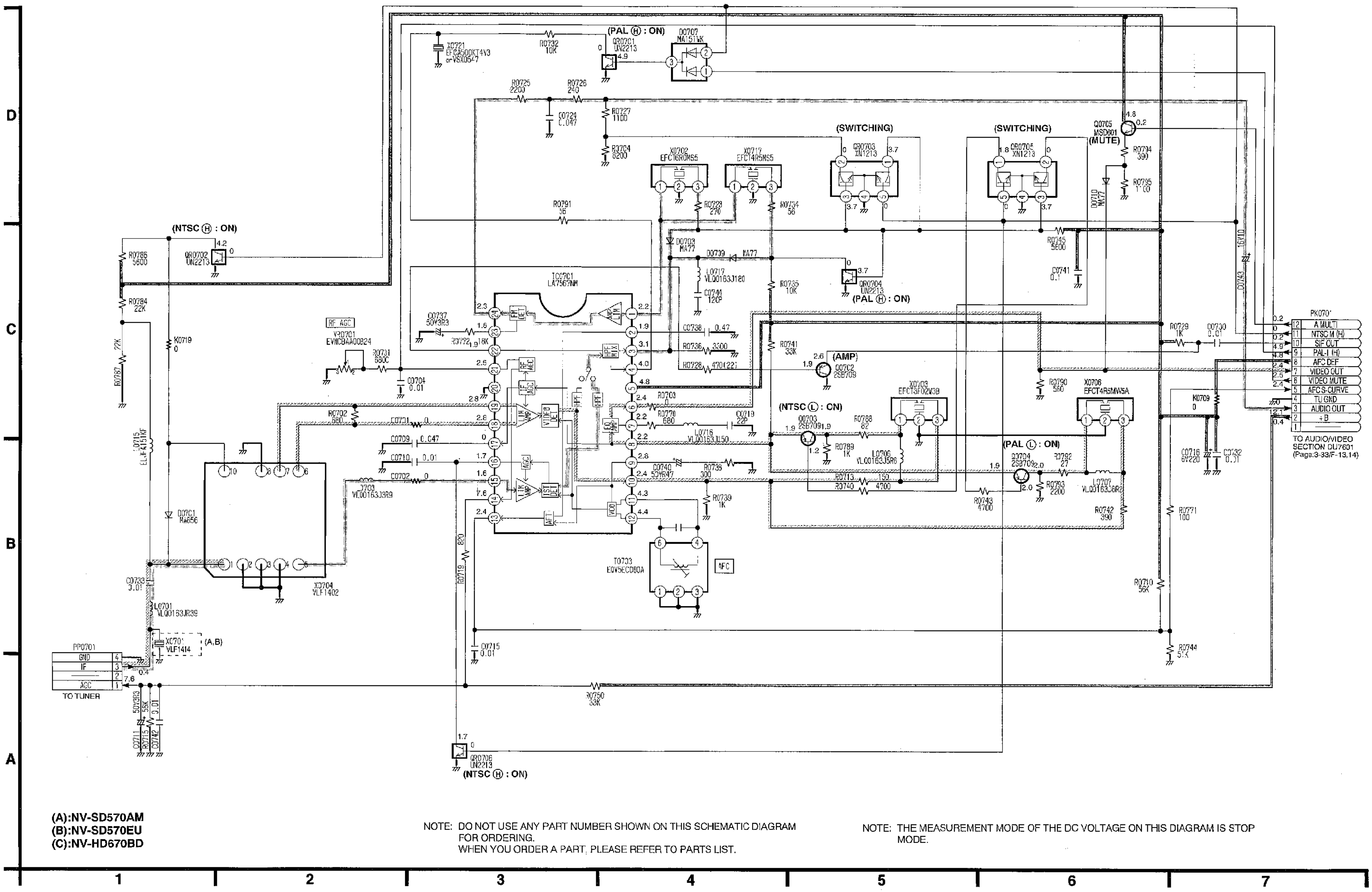
(A):NV-SD570AM (B):NV-SD570EU (C):NV-HD670BD

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE) THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-12. TV DEMODULATOR SCHEMATIC DIAGRAM

AUDIO MAIN SIGNAL PATH
VIDEO MAIN SIGNAL PATH


D
C
B
A
1
2
3
4
5
6
7
(PAL Ⓗ : ON)
QR0701 UN2213
D0707 MA151WK
X0721 EFCA500KT4V3 or VSX0547
R0732 10K
R0725 2200
R0726 240
C0724 0.047
R0727 1100
R0704 8200
X0702 EFCT6R0MS5
X0712 EFCT4R5MS5
R0728 270
R0734 56
(SWITCHING)
QR0703 XN1213
(SWITCHING)
QR0705 XN1213
Q0705 MSD601
(MUTE)
R0794 390
R0795 1100
D0710 MA77
R0745 5600
C0741 0.1
16V10
C0743
R0791 56
(NTSC Ⓗ : ON)
R0785 5600
QR0702 UN2213
R0784 22K
D0703 MA77
D0739 MA77
L0717 VLQ0163J180
C0744 120P
QR0704 UN2213
(PAL Ⓗ : ON)
R0735 10K
IC0701 LA7567NM
C0737 50V3R3
R0772 18K
RF AGC
VR0701 EVNCBAA00B24
R0731 680C
C0704 0.01
R0787 22K
K0719 0
C0738 0.47
R0736 3300
R0728 470(22)
R0741 33K
(AMP)
Q0702 2SB709
X0703 EFCT3F02V3B
R0790 560
X0706 EFCT4R5MW5A
R0729 1K
C0730 0.01
K0709 0
R0702 680
C0701
C0709 0.047
C0710 0.01
C0702
L0703 VLQ0163J3R9
R0703
R0770 680
C0719 22P
L0716 VLQ0163J150
(NTSC Ⓛ : ON)
Q0703 2SB709
R0788 82
R0789 1K
L0706 VLQ0163J5R6
(PAL Ⓛ : ON)
Q0704 2SB709
R0792 27
R0793 2200
L0707 VLQ0163J6R8
C0716 6V220
C0732 0.01
C0740 50V47
R0738 300
R0713 150
R0740 4700
R0739 1K
R0743 4700
R0742 390
R0771 100
L0715 ELJFA151KF
D0701 MA856
X0704 VLF1402
T0703 EQV5ECD80A
AFC
R0719 820
C0733 0.01
L0701 VLQ0163JR39
XC701 VLF1414
(A,B)
R0710 56K
C0715 0.01
R0744 51K
PP0701
GND
IF
ACC
TO TUNER
R0750 33K
C0711 50V3R3
R0715 56K
C0742 0.01
QR0706 UN2213
(NTSC Ⓗ : ON)
PK0701
12 A MULTI
11 NTSC M (H)
10 SIF OUT
9 PAL-I (H)
8 AFC DEF
7 VIDEO OUT
6 VIDEO MUTE
5 AFC S-CURVE
4 TU GND
3 AUDIO OUT
2 +B
1
TO AUDIO/VIDEO SECTION DU7601 (Page:3-33/F-13,14)

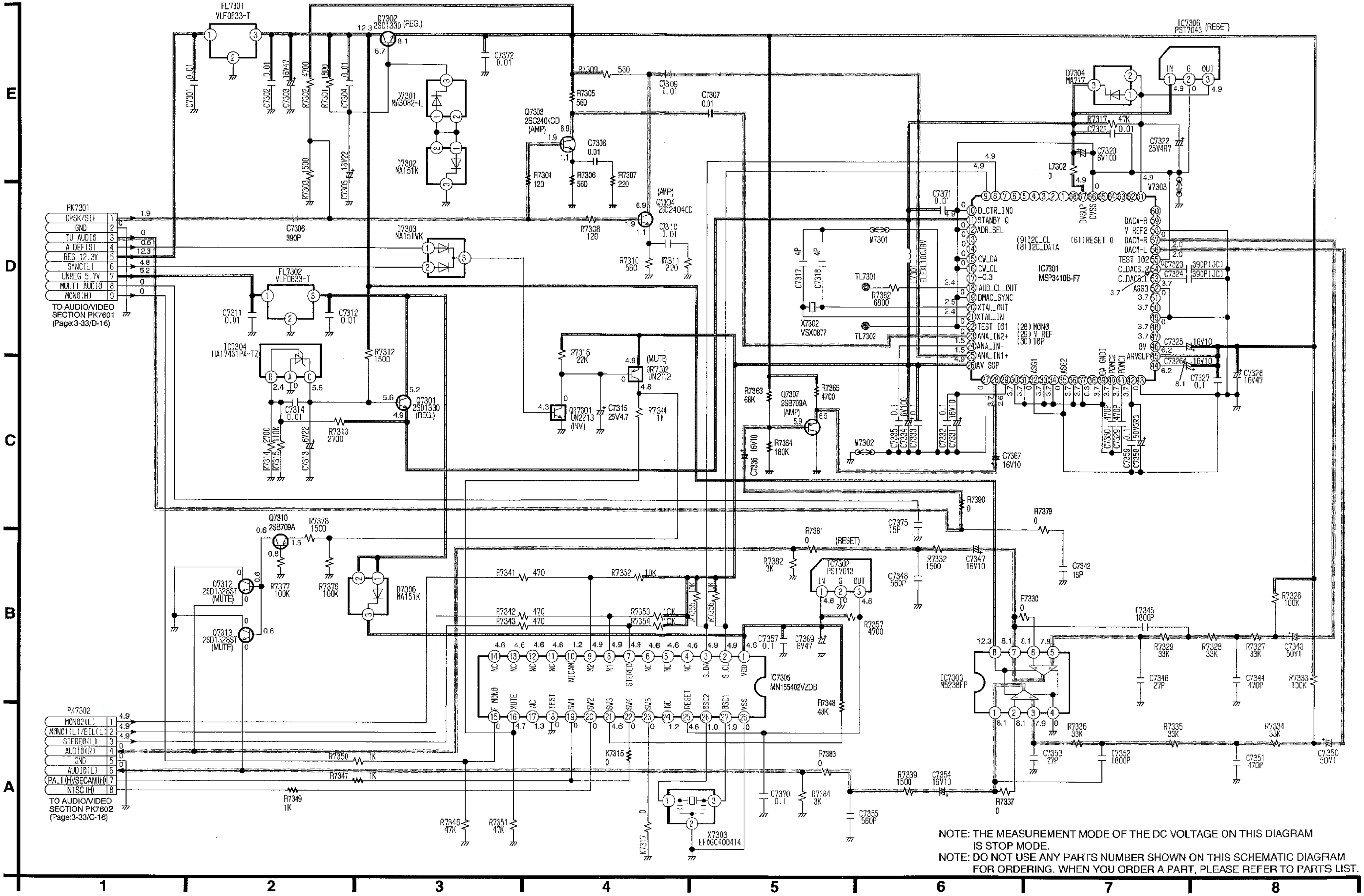
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-13. MSD PACK SCHEMATIC DIAGRAM (NV-HD670BD)

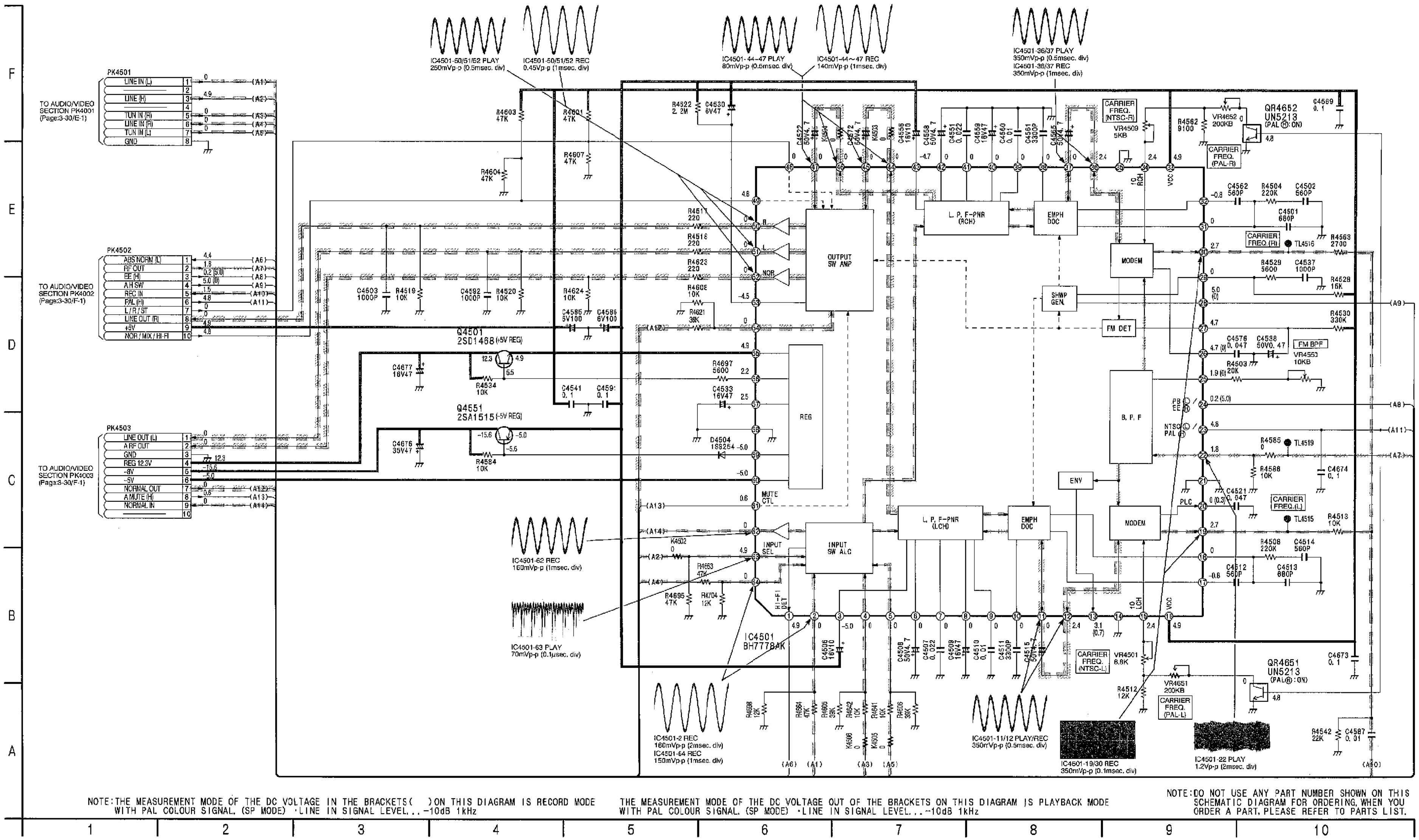
▨ AUDIO MAIN SIGNAL PATH


FL7301 VLF0633-T
Q7302 2SD1330 (REG.)
C7372 0.01
D7301 MA3082-L
D7302 MA151K
Q7303 2SC2404CD (AMP)
R7309 560
C7309 0.01
C7307 0.01
R7305 560
C7308 0.01
R7304 120
R7306 560
R7307 220
Q7304 2SC2404CD (AMP)
C7310 0.01
R7308 120
R7310 560
R7311 220
C7301 0.01
C7302 0.01
C7303 16V47
R7302 4700
R7301 1800
C7304 0.01
R7303 1500
C7305 16V22
C7306 390P
D7303 MA151WK
PK7301
GPSK/SIF 1
GND 2
TU AUDIO 3
A DEF(S) 4
REG 12.3V 5
SYNC(L) 6
UNREG 5.7V 7
MULTI AUDIO 8
MONO(H) 9
TO AUDIO/VIDEO SECTION PK7601 (Page:3-33/D-16)
FL7302 VLF0633-T
C7311 0.01
C7312 0.01
IC7304 UA17431PA-TZ
R7312 1500
Q7301 2SD1330 (REG.)
C7314 0.01
R7313 2700
R7314 2700
R7315 10K
C7313 6V22
R7316 22K
QR7302 UN2112 (MUTE)
QR7301 UN2213 (NV)
C7315 25V4.7
R7344 1K
R7363 68K
Q7307 2SB709A (AMP)
R7365 4700
R7364 180K
C7336 16V10
C7317 4P
C7318 4P
X7302 VSX0877
TL7301
TL7302
R7362 6800
L7301 ELEXL100JBW
V7301
V7302
C7371 0.01
IC7301 MSP3410B-F7
D_CTR_IN0
STANBY Q
ADR_SEL
I2C_CL
I2C_DATA
RESET Q
CV_DA
CV_CL
AUD_CL_OUT
DMAC_SYNC
XTAL_OUT
XTAL_IN
TEST I01
ANA_IN2+
ANA_IN-
ANA_IN1+
AV SUP
MON3
V_REF
TOP
DACA-R
V REF2
DACM-R
DACM-L
TEST I02
C_DACS_R
C_DACS_L
ASG3
AHVSUP
DVSUP
DVSS
ASG1
ASG2
AHVSS
AGNDC
L7302 0
V7303
D7304 MA717
IC7306 PST7043 (RESET)
IN G OUT
R7317 47K
C7321 0.01
C7320 6V100
C7322 25V4R7
C7323 390P(JC)
C7324 390P(JC)
C7325 16V10
C7326 16V10
C7327 0.1
C7328 16V47
C7335 0.1
C7334 6V100
C7333
C7332 0.1
C7331 16V10
C7367 16V10
C7330 470P
C7329 470P
C7359 0.1
C7358 50V3R3
R7390 0
R7379 0
C7375 15P
R7381 0 (RESET)
R7382 3K
IC7302 PST7013
C7348 560P
R7332 1500
C7347 16V10
C7342 15P
R7326 100K
F7330
C7345 1800P
Q7310 2SB709A
R7378 1500
R7377 100K
R7376 100K
D7306 MA151K
Q7312 2SD1328ST (MUTE)
Q7313 2SD1328ST (MUTE)
R7341 470
R7352 10K
R7342 470
R7343 470
R7353 10K
R7354 10K
R7355 10K
R7356 10K
C7357 0.1
C7369 6V47
R7357 4700
IC7305 MN155402VZDB
NC MUTE NC TEST SW1 SW2 SW3 SW4 SW5 NC RESET OSC2 OSC1 VSS
NC NC NC NTCAM M2 M1 STEREO NC NC NC S.DA S.CL VDD
MONO
R7348 43K
IC7303 M5239FP
R7329 33K
R7328 33K
R7327 33K
C7343 50V1
C7346 27P
C7344 470P
R7333 100K
R7336 33K
R7335 33K
R7334 33K
C7353 27P
C7352 1800P
C7351 470P
C7350 50V1
PK7302
MONO2(L) 1
MONO1(L)/BIL(L) 2
STEREO(L) 3
AUDIO(R) 4
GND 5
AUDIO(L) 6
PA_I(H)/SECAM(H) 7
NTSC(H) 8
TO AUDIO/VIDEO SECTION PK7602 (Page:3-33/C-16)
R7350 1K
R7347 1K
R7349 1K
R7346 47K
R7351 47K
R7315 0
R7317 0
X7303 EF06C4004T4
C7370 0.1
R7383 0
R7384 3K
C7355 560P
R7339 1500
C7354 16V10
R7337 0
E
D
C
B
A
1
2
3
4
5
6
7
8

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-14. FM AUDIO PACK SCHEMATIC DIAGRAM (NV-HD670BD)

AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE AUDIO MAIN SIGNAL PATH IN REC MODE



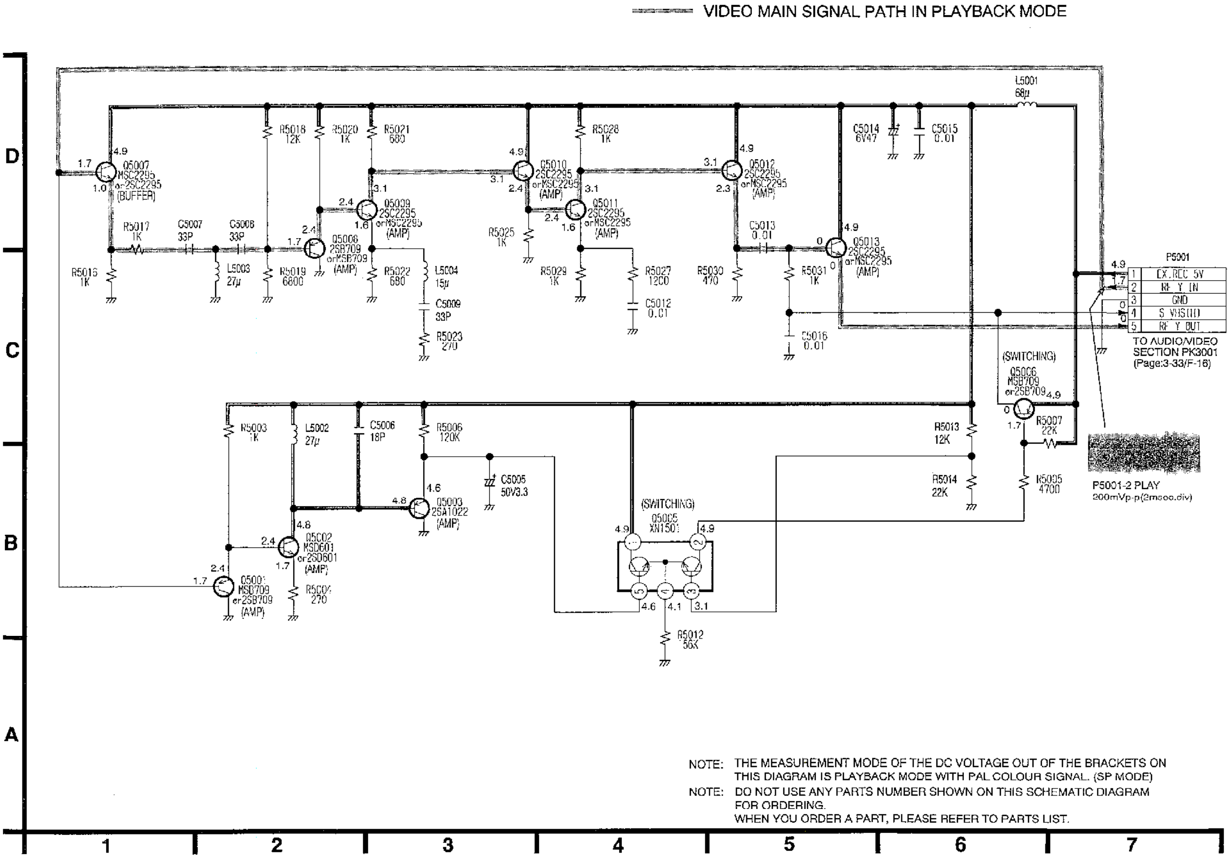
F
E
D
C
B
A
PK4501
LINE IN (L)
LINE (R)
TUN IN (R)
LINE IN (R)
TUN IN (L)
GND
TO AUDIO/VIDEO SECTION PK4001 (Page:3-30/E-1)
PK4502
ABS NORN (L)
RF OUT
EE (H)
A H SW
REC IN
PAL (H)
L / R / ST
LINE OUT (R)
+5V
NOR / MIX / HI-FI
TO AUDIO/VIDEO SECTION PK4002 (Page:3-30/F-1)
PK4503
LINE OUT (L)
A RF OUT
GND
REG 12.3V
-8V
-5V
NORMAL OUT
A MUTE (H)
NORMAL IN
TO AUDIO/VIDEO SECTION PK4003 (Page:3-30/F-1)
IC4501-50/51/52 PLAY 250mVp-p (0.5msec. div)
IC4501-50/51/52 REC 0.45Vp-p (1msec. div)
IC4501-44~47 PLAY 80mVp-p (0.5msec. div)
IC4501-44~47 REC 140mVp-p (1msec. div)
IC4501-36/37 PLAY 350mVp-p (0.5msec. div)
IC4501-36/37 REC 350mVp-p (1msec. div)
Q4501 2SD1468 (+5V REG)
Q4551 2SA1515 (-5V REG)
OUTPUT SW AMP
REG
MUTE CTL
INPUT SEL
INPUT SW ALC
HI-FI DET
IC4501 BH7778AK
L. P. F-PNR (RCH)
L. P. F-PNR (LCH)
EMPH DOC
SHWP GEN.
FM DET
MODEM
B. P. F
ENV
PLC
CARRIER FREQ. (NTSC-R)
CARRIER FREQ. (PAL-R)
CARRIER FREQ. (R)
CARRIER FREQ. (L)
CARRIER FREQ. (NTSC-L)
CARRIER FREQ. (PAL-L)
FM BPF
QR4652 UN5213 (PAL Ⓗ : ON)
QR4651 UN5213 (PAL Ⓗ : ON)
VR4652 200KB
VR4651 200KB
VR4509 5KB
VR4501 6.8K
VR4553 10KB
TL4516
TL4519
TL4515
IC4501-62 REC 160mVp-p (1msec. div)
IC4501-63 PLAY 70mVp-p (0.1μsec. div)
IC4501-2 REC 160mVp-p (2msec. div)
IC4501-64 REC 150mVp-p (1msec. div)
IC4501-11/12 PLAY/REC 350mVp-p (0.5msec. div)
IC4501-19/30 REC 350mVp-p (0.1msec. div)
IC4501-22 PLAY 1.2Vp-p (2msec. div)
1
2
3
4
5
6
7
8
9
10

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS( )ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE) ·LINE IN SIGNAL LEVEL...-10dB 1kHz

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE) ·LINE IN SIGNAL LEVEL...-10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING, WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

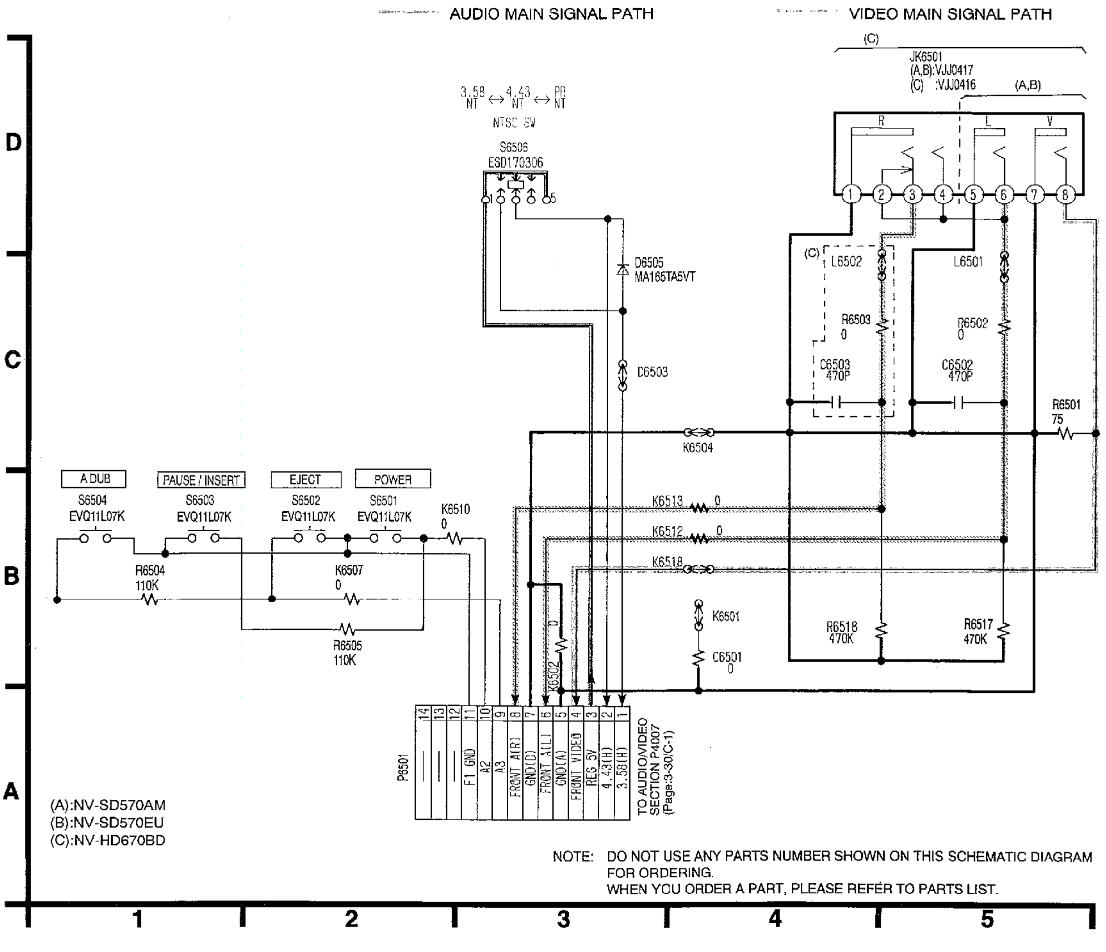
3-15. S-VHS PLAYBACK PACK SCHEMATIC DIAGRAM (NV-HD670BD)


VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
A
B
C
D
1
2
3
4
5
6
7
Q5007
MSC2295
or2SC2295
(BUFFER)
R5016
1K
R5017
1K
C5007
33P
C5008
33P
L5003
27μ
R5018
12K
R5019
6800
Q5008
2SB709
orMSB709
(AMP)
R5020
1K
R5021
680
Q5009
2SC2295
orMSC2295
(AMP)
R5022
680
L5004
15μ
C5009
33P
R5023
270
Q5010
2SC2295
orMSC2295
(AMP)
R5025
1K
R5028
1K
Q5011
2SC2295
orMSC2295
(AMP)
R5029
1K
R5027
1200
C5012
0.01
Q5012
2SC2295
orMSC2295
(AMP)
R5030
470
C5013
0.01
Q5013
2SC2295
orMSC2295
(AMP)
R5031
1K
C5016
0.01
C5014
6V47
C5015
0.01
L5001
68μ
P5001
1 EX.REC 5V
2 RF Y IN
3 GND
4 S VHS(H)
5 RF Y OUT
TO AUDIO/VIDEO
SECTION PK3001
(Page:3-33/F-16)
(SWITCHING)
Q5006
MSB709
or2SB709
R5007
22K
R5013
12K
R5014
22K
R5005
4700
P5001-2 PLAY
200mVp-p(2msec.div)
(SWITCHING)
Q5005
XN1501
R5012
56K
R5003
1K
L5002
27μ
C5006
18P
R5006
120K
C5005
50V3.3
Q5003
2SA1022
(AMP)
Q5002
MSD601
or2SD601
(AMP)
R5004
270
Q5001
MSB709
or2SB709
(AMP)
4.9
1.7
1.0
2.4
3.1
1.6
2.3
0
4.8
4.6
4.1

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

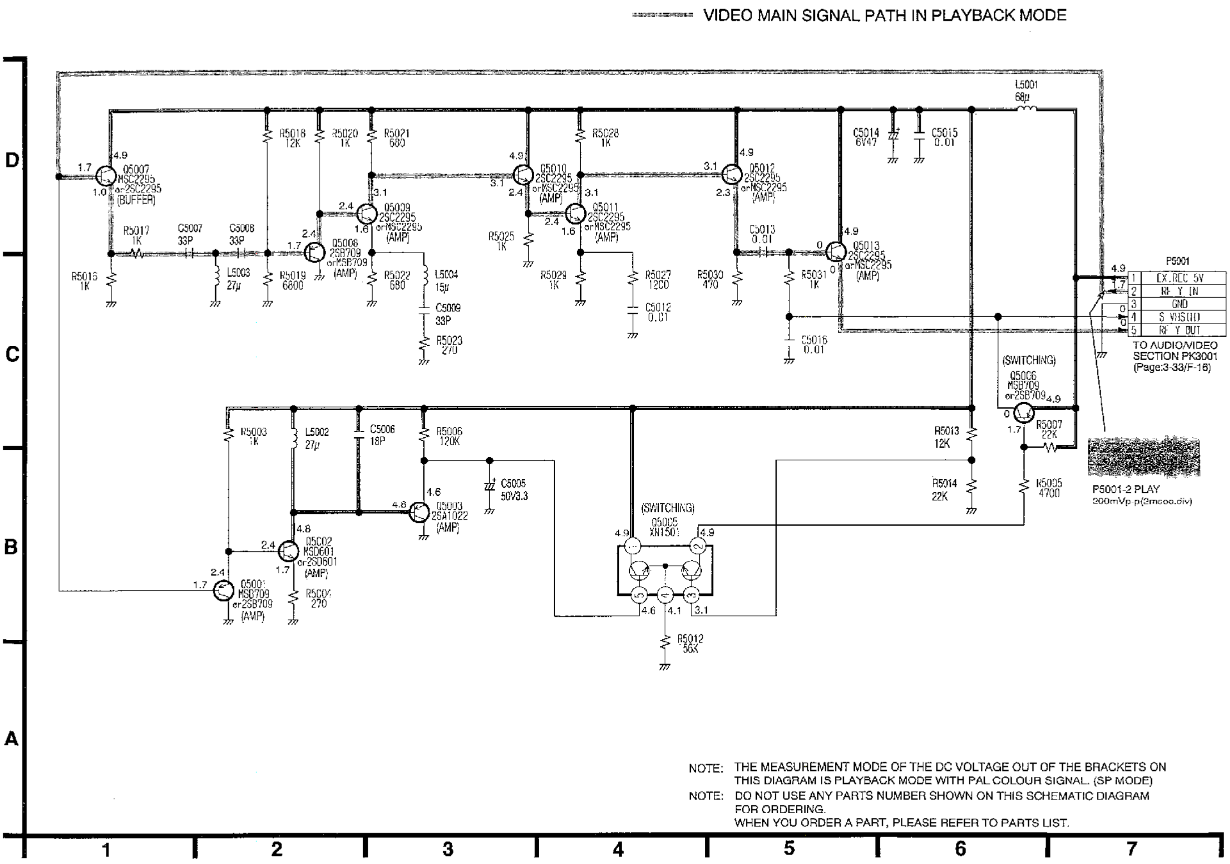
3-16. FRONT SCHEMATIC DIAGRAM


AUDIO MAIN SIGNAL PATH
VIDEO MAIN SIGNAL PATH
A
B
C
D
1
2
3
4
5
(C)
JK6501
(A,B):VJJ0417
(C) :VJJ0416
(A,B)
R
L
V
3.58 NT ↔ 4.43 NT ↔ PB NT
NTSC 5V
S6506
ESD170306
D6505
MA165TA5VT
D6503
(C)
L6502
R6503
0
C6503
470P
L6501
R6502
0
C6502
470P
R6501
75
K6504
K6513
0
K6512
0
K6518
K6501
C6501
0
R6518
470K
R6517
470K
K6502
0
A DUB
S6504
EVQ11L07K
PAUSE / INSERT
S6503
EVQ11L07K
EJECT
S6502
EVQ11L07K
POWER
S6501
EVQ11L07K
K6510
0
R6504
110K
K6507
0
R6505
110K
P6501
1 3.58(H)
2 4.43(H)
3 REG 5V
4 FRONT VIDEO
5 GND(A)
6 FRONT A(L)
7 GND(D)
8 FRONT A(R)
9 A3
10 A2
11 F1 GND
TO AUDIO/VIDEO
SECTION P4007
(Page:3-30/C-1)

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

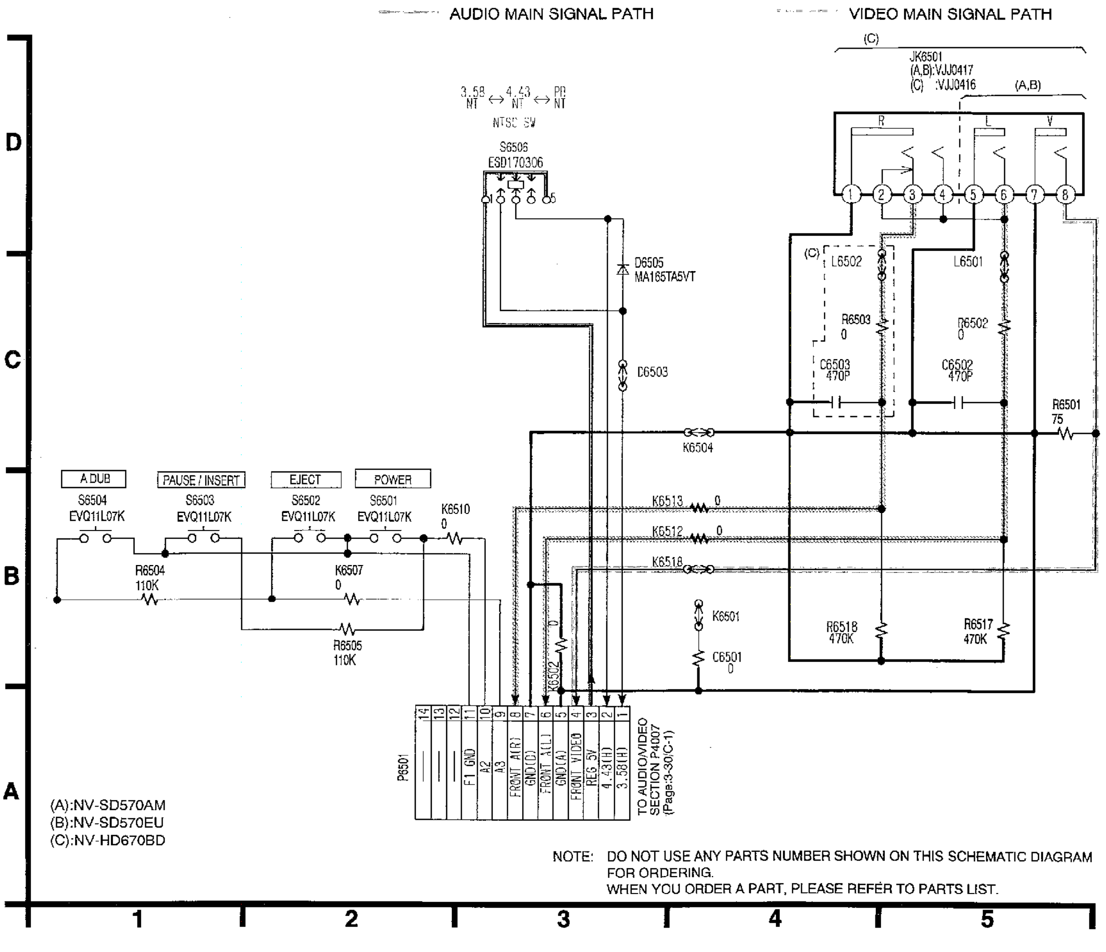
3-15. S-VHS PLAYBACK PACK SCHEMATIC DIAGRAM (NV-HD670BD)


VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
D
C
B
A
1
2
3
4
5
6
7
Q5007
MSC2295
or2SC2295
(BUFFER)
1.7
4.9
1.0
R5016
1K
R5017
1K
C5007
33P
C5008
33P
L5003
27μ
R5018
12K
R5019
6800
R5020
1K
R5021
680
Q5008
2SB709
orMSB709
(AMP)
Q5009
2SC2295
orMSC2295
(AMP)
R5022
680
L5004
15μ
C5009
33P
R5023
270
Q5010
2SC2295
orMSC2295
(AMP)
Q5011
2SC2295
orMSC2295
(AMP)
R5025
1K
R5028
1K
R5029
1K
R5027
1200
C5012
0.01
Q5012
2SC2295
orMSC2295
(AMP)
R5030
470
C5013
0.01
Q5013
2SC2295
orMSC2295
(AMP)
R5031
1K
C5016
0.01
C5014
6V47
C5015
0.01
L5001
68μ
P5001
1 EX.REC 5V
2 RF Y IN
3 GND
4 S VHS(H)
5 RF Y OUT
TO AUDIO/VIDEO
SECTION PK3001
(Page:3-33/F-16)
(SWITCHING)
Q5006
MSB709
or2SB709
R5007
22K
R5005
4700
R5013
12K
R5014
22K
P5001-2 PLAY
200mVp-p(2msec.div)
(SWITCHING)
Q5005
XN1501
R5012
56K
R5003
1K
L5002
27μ
C5006
18P
R5006
120K
C5005
50V3.3
Q5003
2SA1022
(AMP)
Q5002
MSD601
or2SD601
(AMP)
R5004
270
Q5001
MSB709
or2SB709
(AMP)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

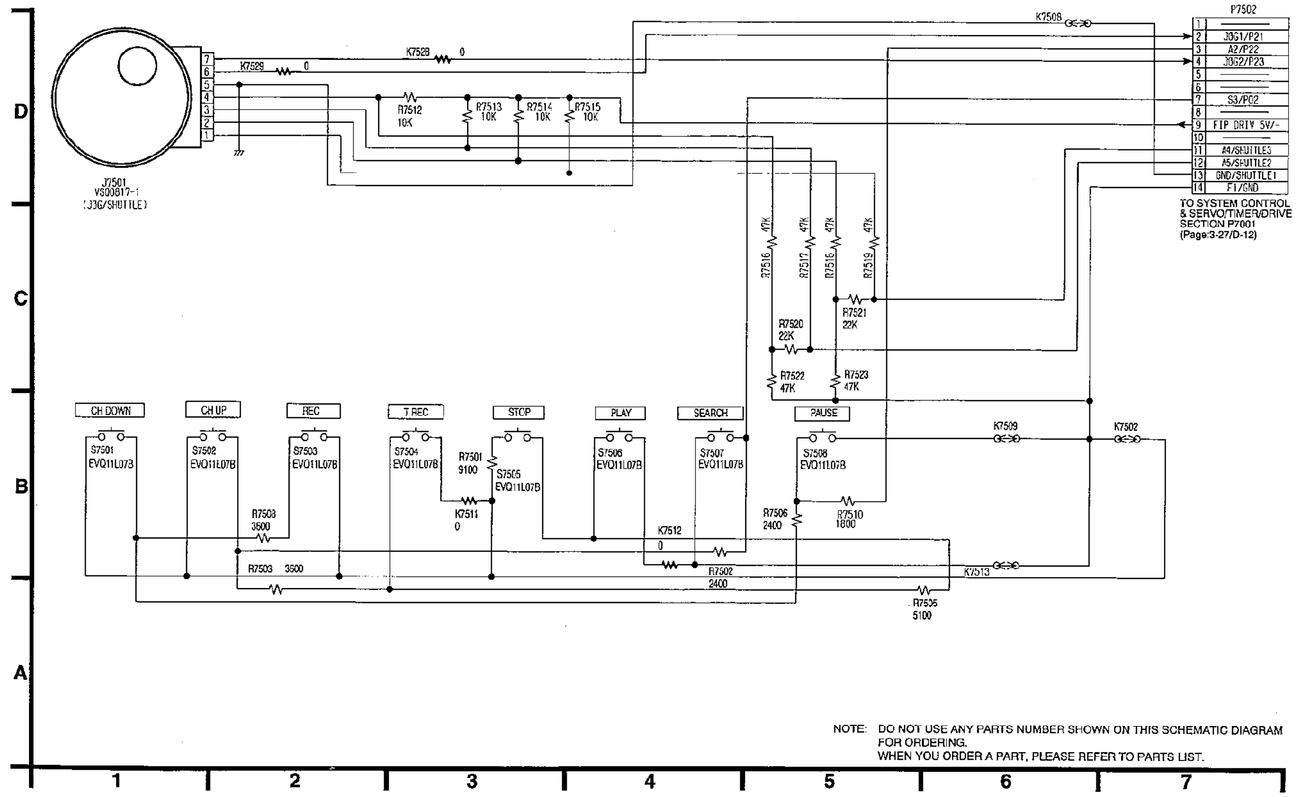
3-16. FRONT SCHEMATIC DIAGRAM


AUDIO MAIN SIGNAL PATH
VIDEO MAIN SIGNAL PATH
D
C
B
A
1
2
3
4
5
(C)
JK6501
(A,B):VJJ0417
(C) :VJJ0416
(A,B)
R
L
V
3.58 NT ↔ 4.43 NT ↔ PB NT
NTSC 5V
S6506
ESD170306
D6505
MA165TA5VT
D6503
(C) L6502
R6503
0
C6503
470P
L6501
R6502
0
C6502
470P
R6501
75
K6504
K6513 0
K6512 0
K6518
K6501
C6501
0
R6518
470K
R6517
470K
K6502
0
A DUB
PAUSE / INSERT
EJECT
POWER
S6504
EVQ11L07K
S6503
EVQ11L07K
S6502
EVQ11L07K
S6501
EVQ11L07K
K6510
0
R6504
110K
K6507
0
R6505
110K
P6501
1 3.58(H)
2 4.43(H)
3 REG 5V
4 FRONT VIDEO
5 GND(A)
6 FRONT A(L)
7 GND(D)
8 FRONT A(R)
9 A3
10 A2
11 F1 GND
12
13
14
TO AUDIO/VIDEO
SECTION P4007
(Page:3-30/C-1)

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

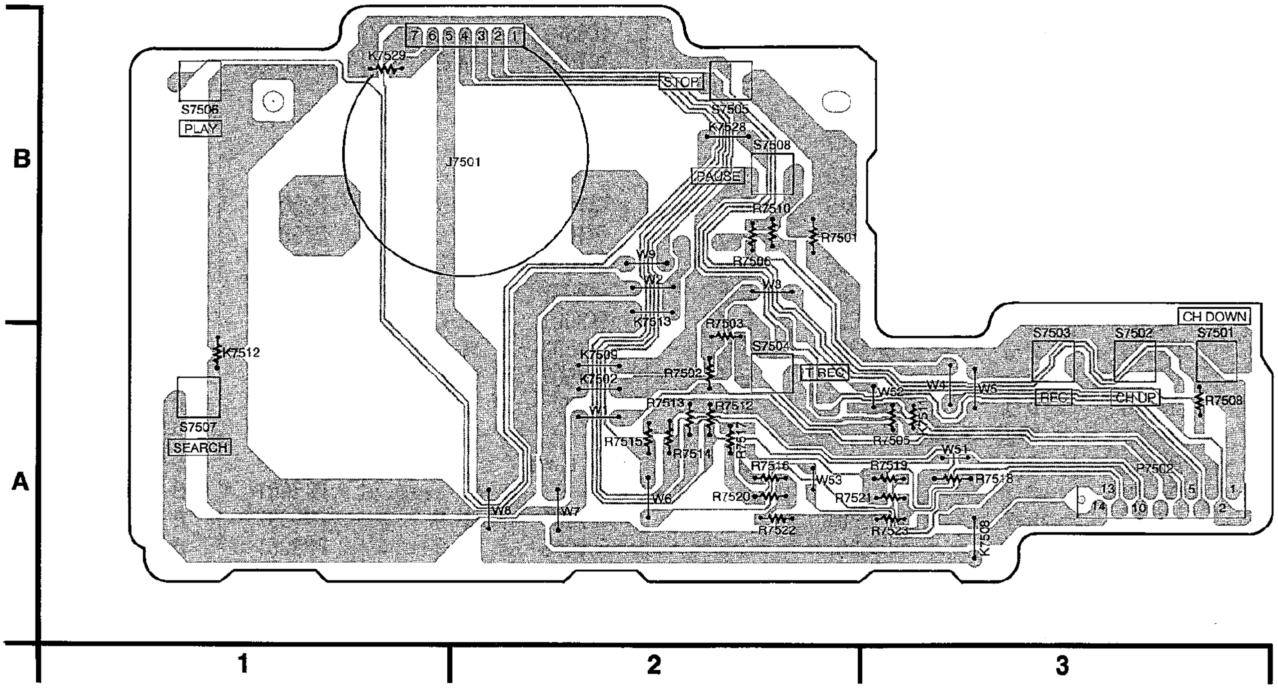
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-17. JOG SHUTTLE SCHEMATIC DIAGRAM

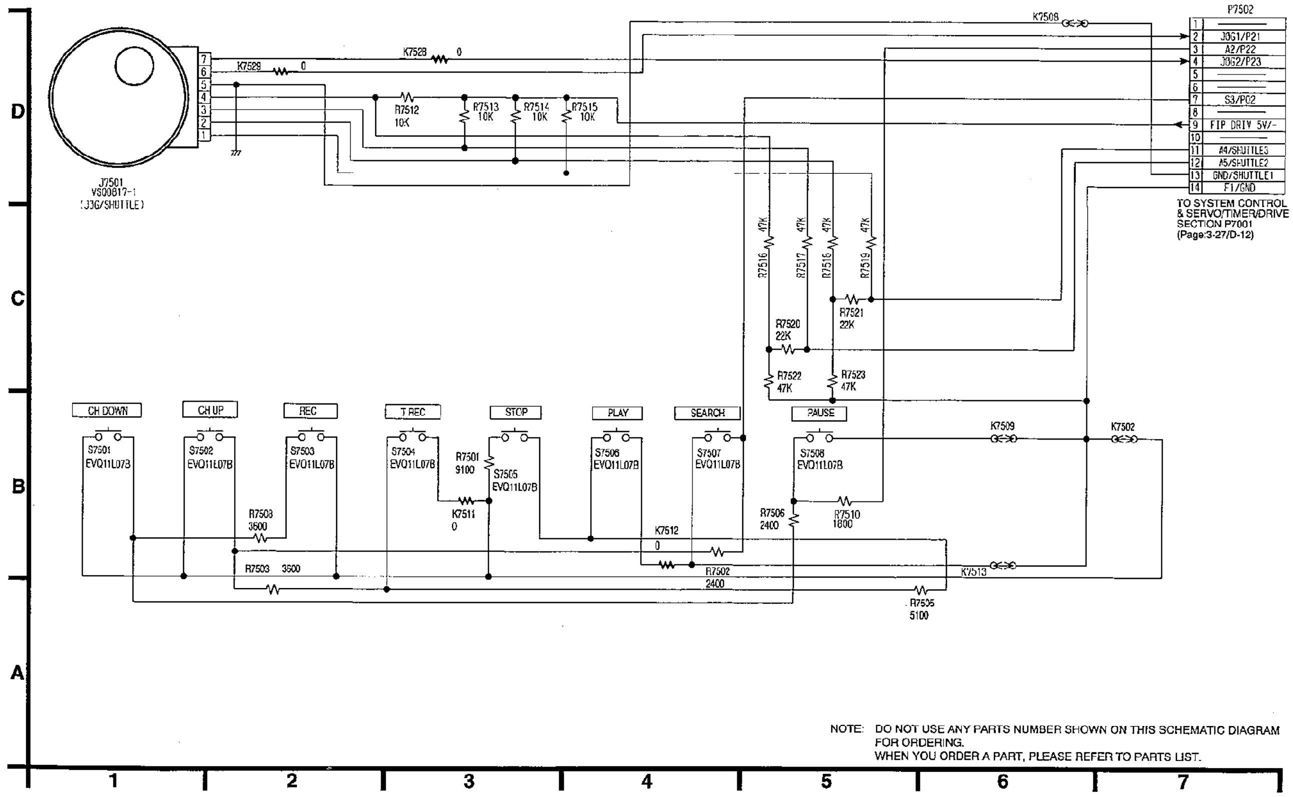

J7501
VS00817-1
(JOG/SHUTTLE)
K7529 0
K7528 0
R7512 10K
R7513 10K
R7514 10K
R7515 10K
K7508
P7502
1 —
2 JOG1/P21
3 A2/P22
4 JOG2/P23
5 —
6 —
7 S3/P02
8 —
9 FIP DRIV 5V/-
10 —
11 A4/SHUTTLE3
12 A5/SHUTTLE2
13 GND/SHUTTLE1
14 F1/GND
TO SYSTEM CONTROL
& SERVO/TIMER/DRIVE
SECTION P7001
(Page:3-27/D-12)
R7516 47K
R7517 47K
R7518 47K
R7519 47K
R7520 22K
R7521 22K
R7522 47K
R7523 47K
CH DOWN
S7501 EVQ11L07B
CH UP
S7502 EVQ11L07B
REC
S7503 EVQ11L07B
T REC
S7504 EVQ11L07B
STOP
R7501 9100
S7505 EVQ11L07B
PLAY
S7506 EVQ11L07B
SEARCH
S7507 EVQ11L07B
PAUSE
S7508 EVQ11L07B
K7509
K7502
R7508 3600
K7511 0
K7512 0
R7506 2400
R7510 1800
R7503 3600
R7502 2400
K7513
R7505 5100
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-18. JOG SHUTTLE C.B.A. (VEP07947A)

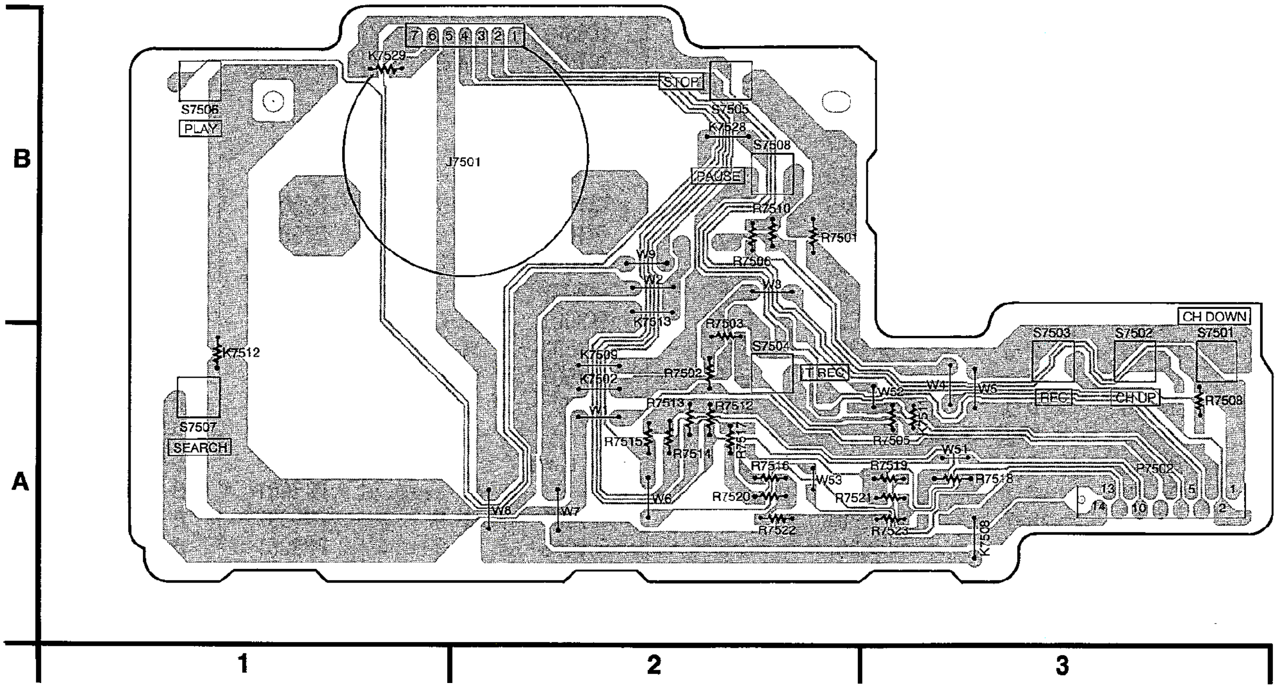

7 6 5 4 3 2 1
K7529
S7506
PLAY
J7501
STOP
S7505
K7528
S7508
PAUSE
R7510
R7501
W3
R7506
W2
W8
K7513
R7503
S7504
K7509
K7502
R7502
T REC
W1
R7513
R7512
R7515
R7514
R7517
W6
W52
W4
W5
R7505
W51
R7516
W53
R7519
R7518
R7520
R7521
R7522
R7523
K7508
W6
W7
K7512
S7507
SEARCH
CH DOWN
S7503
S7502
S7501
REC
CH UP
R7508
P7502
13
14
10
5
1
2
B
A
1
2
3

3-17. JOG SHUTTLE SCHEMATIC DIAGRAM

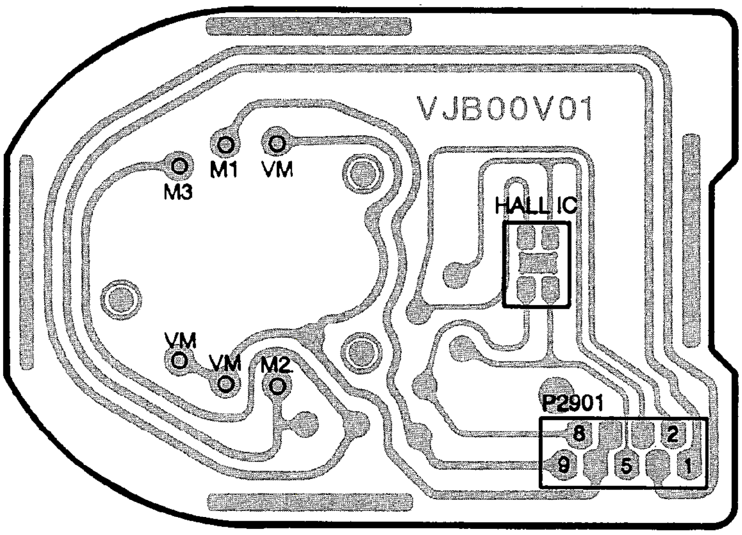

D
C
B
A
1
2
3
4
5
6
7
J7501
VSG0817-1
(JOG/SHUTTLE)
K7528 0
K7529 0
R7512 10K
R7513 10K
R7514 10K
R7515 10K
K7508
P7502
1
2 JOG1/P21
3 A2/P22
4 JOG2/P23
5
6
7 S3/P02
8
9 FIP DRIV 5V/-
10
11 A4/SHUTTLE3
12 A5/SHUTTLE2
13 GND/SHUTTLE1
14 F1/GND
TO SYSTEM CONTROL & SERVO/TIMER/DRIVE SECTION P7001 (Page:3-27/D-12)
R7516 47K
R7517 47K
R7518 47K
R7519 47K
R7520 22K
R7521 22K
R7522 47K
R7523 47K
CH DOWN
CH UP
REC
T.REC
STOP
PLAY
SEARCH
PAUSE
S7501 EVQ11L07B
S7502 EVQ11L07B
S7503 EVQ11L07B
S7504 EVQ11L07B
S7505 EVQ11L07B
S7506 EVQ11L07B
S7507 EVQ11L07B
S7508 EVQ11L07B
R7501 9100
K7511 0
R7508 3600
R7503 3600
K7512 0
R7502 2400
R7506 2400
R7510 1800
K7509
K7502
K7513
R7505 5100

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-18. JOG SHUTTLE C.B.A. (VEP07947A)


B
A
1
2
3
7 6 5 4 3 2 1
K7529
J7501
S7506
PLAY
STOP
S7505
K7528
S7508
PAUSE
R7510
R7501
R7506
W9
W2
W3
K7513
R7503
S7504
K7509
K7502
R7502
T.REC
W1
R7513
R7512
R7515
R7514
R7517
R7516
W53
R7520
R7522
R7519
R7521
R7523
R7518
W6
W7
W8
K7512
S7507
SEARCH
W52
W4
W5
R7505
W51
REC
CH UP
CH DOWN
S7503
S7502
S7501
R7508
P7502
13
14
10
5
1
2
K7508

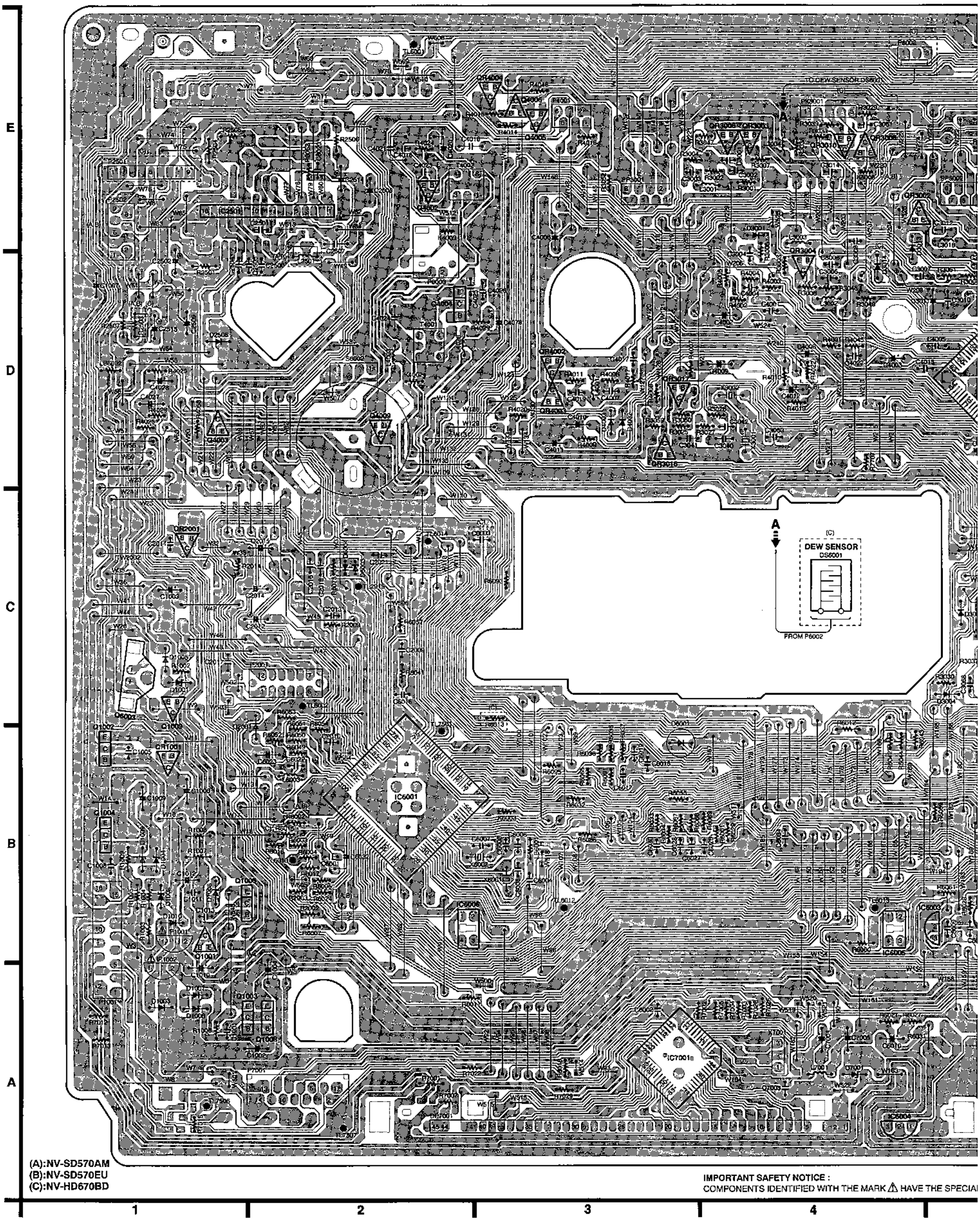
3-19. CYLINDER STATOR UNIT C.B.A. (VEP00V01A : NV-SD570AM/EU)



MAIN C. B. A.							
Transistor		Transistor & Resistor		IC3003	C-5	TL6002	C-2
				IC4001	E-6	TL6012	B-3
Q1001	B-1	QR1001	B-1	IC6001	B-2	TL6010	B-2
Q1002	B-1	QR2001	C-1	IC6002	B-5	TL6013	B-4
Q1003	A-1	QR3002	E-4	IC6003	B-5	TL6014	C-2
Q1004	B-1	QR3003	E-4	IC6004	A-4	TL7501	B-2
Q1005	B-1	QR3004	D-4	IC6005	B-4	TL7506	A-1
Q1008	A-2	QR3006	E-4	IC6006	B-2	TL7507	A-2
Q1009	C-1	QR3008	E-4	IC6007	B-5		
Q3001	D-7	QR3009	B-6	IC7001	A-3	Connector	
Q3002	C-5	QR3010	E-4	IC7701	A-7		
Q3003	C-5	QR3016	D-3			P1001	A-1
Q3008	C-5	QR3017	D-3	Test Wire		P2001	C-2
Q3009	D-7	QR3018	C-6			P2501	E-1
Q4001	E-5	QR3019	C-5	TW1002	B-7	P2502	A-4
Q4002	E-2	QR4002	D-3	TW1003	C-6	P4001	E-3
Q4003	D-1	QR4003	D-3	TW2001	C-6	P4002	C-5
Q4004	D-2	QR4004	E-3	TW2002	C-1	P4007	A-6
Q4005	E-3	QR7601	C-7	TW3001	E-5	P6002	E-4
Q4006	E-3	QR7602	E-7	TW4502	D-6	P6003	D-2
Q4007	D-7	QR7603	E-7	TW4507	D-6	PK3001	E-4
Q4008	D-7	QR7701	D-6	TWGND	D-6	PK4001	C-6
Q4009	D-2					PK4002	D-6
Q6002	C-6	Integrated Circuit		Test Land		PK4003	D-6
Q6003	C-1					PK7601	B-7
Q7601	D-7	IC2501	E-1	TL2001	E-5	PK7602	B-7
Q7701	A-7	IC3001	D-5	TL2015	C-2	PP3001	E-3
Q7702	A-7	IC3002	B-7	TL6001	E-2	PP3002	E-5

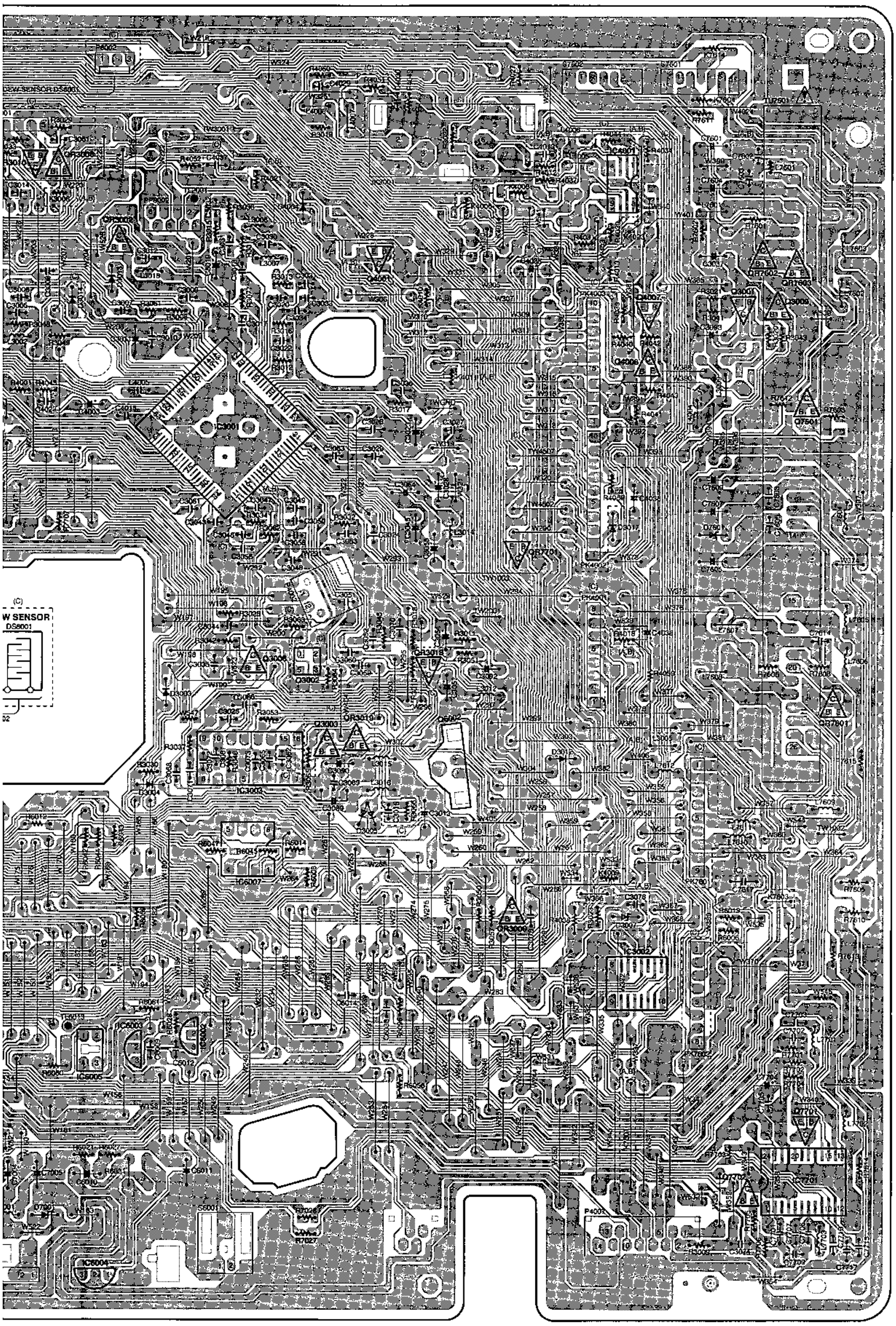
ADDRESS INFORMATION

3-20. MAIN C.B.A. (VEP06C05K : NV-SD570AM/EU,VEP06C05J : NV-HD670BD)


E
D
C
B
A
1
2
3
4
TO DEW SENSOR DS6001
A
(C)
DEW SENSOR
DS6001
FROM P6002
IC6001
IC7001
QR2001
QR1001
QR4002
QR4003
QR3004
IC6006
IC6005
IC6004

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAI


DEW SENSOR DS6001
DEW SENSOR
DS6001
IC3001
IC3002
IC6007
IC6003
IC6004
IC3005
IC7701
QR7704
QR3006
QR7601
QR7602
QR7603
P4001
C6001

E :
WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

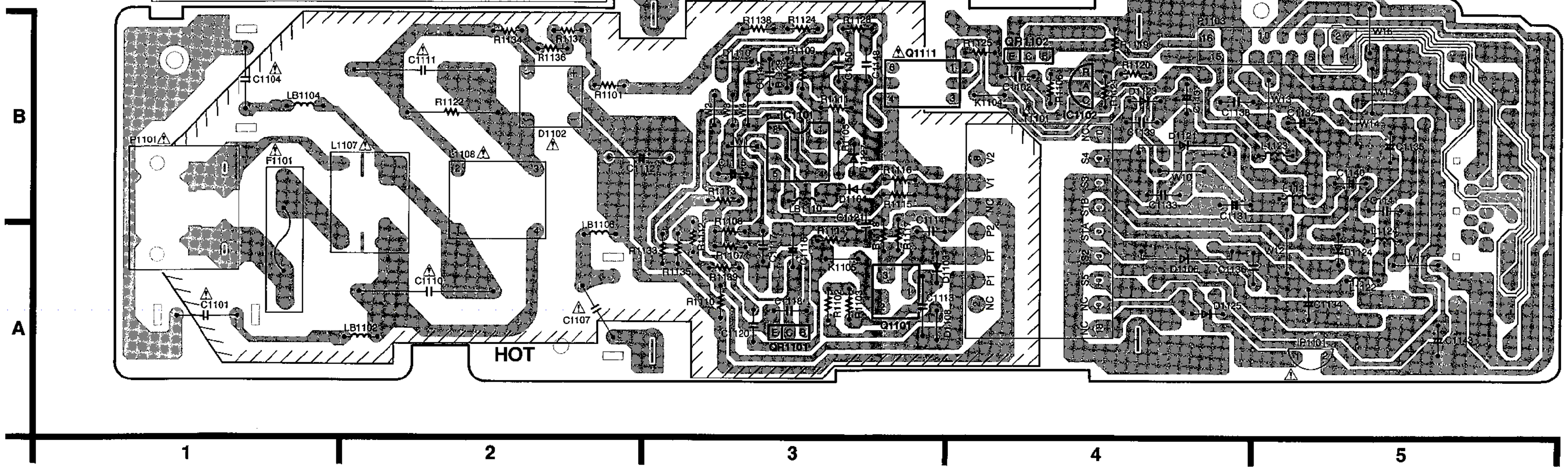
5
6
7

3-21. POWER C.B.A. (VEP01768J)

CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

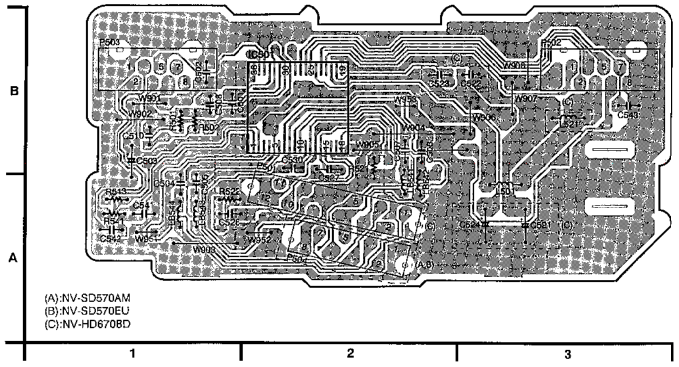
IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.


B
A
1
2
3
4
5
HOT
P1101
F1101
L1107
LB1104
C1104
C1111
R1122
R1134
R1137
R1136
R1101
D1102
C1110
C1101
C1107
LB1102
LB1105
Q1111
QR1102
QR1101
Q1101
R1138
R1124
R1128
K1104
P1103

POWER C. B. A.	
Transistor	
Q1101 Q1111	A-3 B-3
Transistor & Resistor	
QR1101 QR1102	A-3 B-4
Integrated Circuit	
IC1101 IC1102	B-3 B-4
Connector	
P1101 P1103	B-1 B-4

ADDRESS INFORMATION

3-22. HEAD AMP C.B.A. (VEP05353B : NV-SD570AM/EU, VEP05353A : NV-HD670BD)

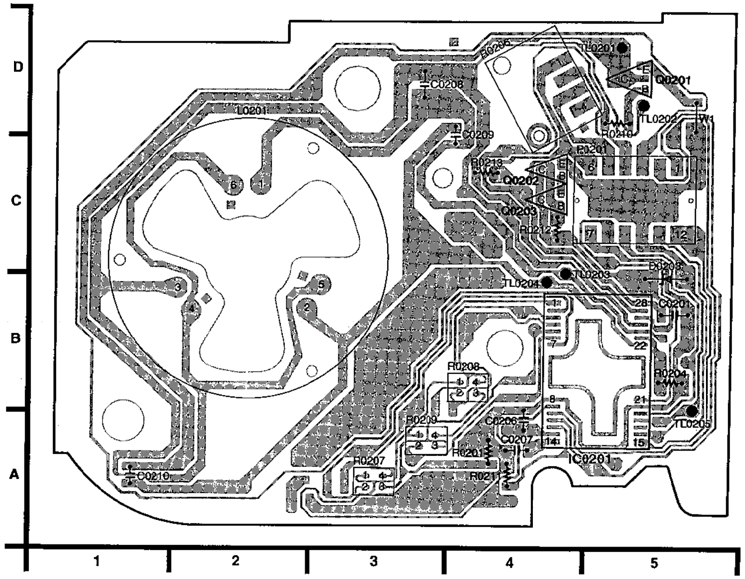

B
A
1
2
3
P503
IC501
W901
W902
W903
W904
W905
W906
W907
C510
C503
C504
R513
R541
C542
C543
C524
C530
C581
P502
P501

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

HEAD AMP C. B. A.	
Integrated Circuit	
IC501	B-2
Connector	
P501 P502 P503	A-2 B-3 B-1

ADDRESS INFORMATION

3-23. CAPSTAN DRIVE UNIT C.B.A. (VEP02553A)


D
C
B
A
1
2
3
4
5
L0201
C0208
C0209
Q0201
Q0202
Q0203
TL0201
TL0202
TL0203
TL0204
TL0205
R0208
R0209
R0207
R0201
C0206
C0207
C0210
IC0201
R0204
P0201
W1

CAPSTAN DRIVE C. B. A.	
Transistor	
Q0201 Q0202 Q0203	D-5 C-4 C-4
Integrated Circuit	
IC0201	B-5
Test Land	
TL0201 TL0202 TL0203 TL0204 TL0205	D-5 D-5 B-4 B-4 A-5
Connector	
P0201	C-5

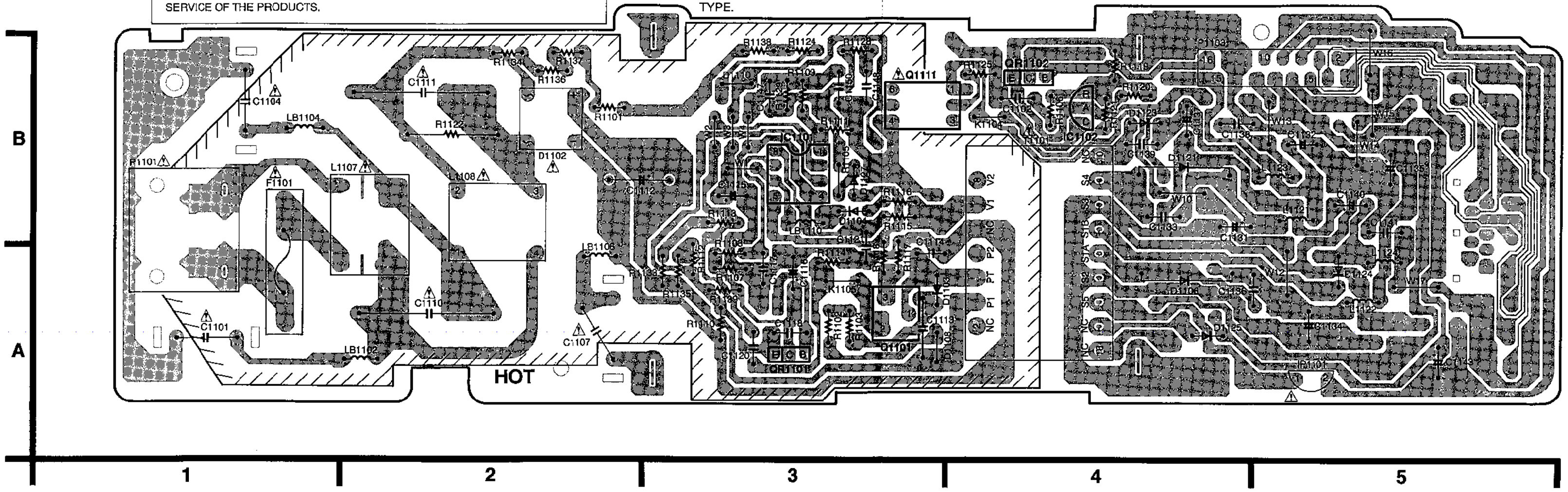
ADDRESS INFORMATION

3-21. POWER C.B.A. (VEP01768J)

CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

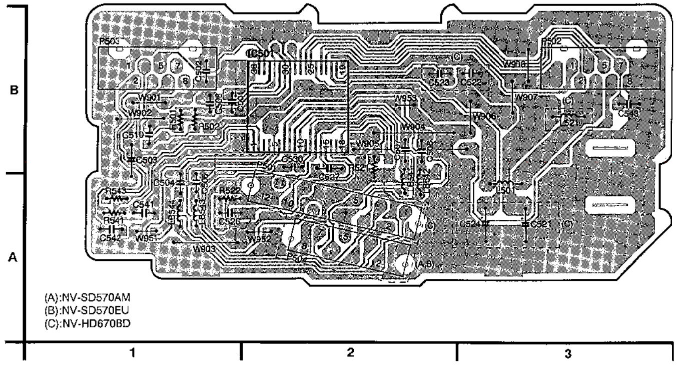
IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.


B
A
1
2
3
4
5
HOT
F1101
C1101
C1104
C1107
C1110
C1111
LB1101
LB1102
LB1104
LB1106
L1107
L1108
R1101
R1122
R1134
R1136
R1137
R1138
R1124
R1128
D1102
Q1111
QR1101
QR1102
IC1101
IC1102
P1101
P1103

POWER C. B. A.	
Transistor	
Q1101 Q1111	A-3 B-3
Transistor & Resistor	
QR1101 QR1102	A-3 B-4
Integrated Circuit	
IC1101 IC1102	B-3 B-4
Connector	
P1101 P1103	B-1 B-4

ADDRESS INFORMATION

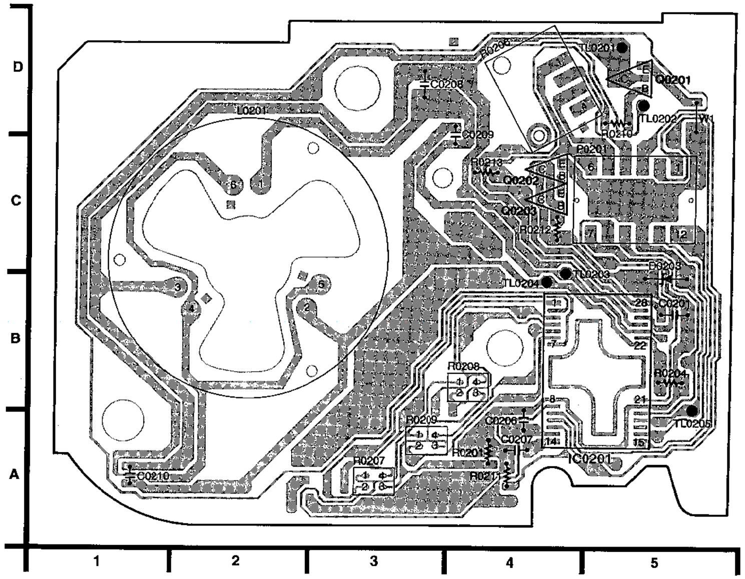
3-22. HEAD AMP C.B.A. (VEP05353B : NV-SD570AM/EU, VEP05353A : NV-HD670BD)


B
A
1
2
3
P503
IC501
W901
W902
C510
C503
C504
C541
C542
R541
R545
W903
C521
C522
C523
C524
(A)
(B)
(C)
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

HEAD AMP C. B. A.	
Integrated Circuit	
IC501	B-2
Connector	
P501 P502 P503	A-2 B-3 B-1

ADDRESS INFORMATION

3-23. CAPSTAN DRIVE UNIT C.B.A. (VEP02553A)


D
C
B
A
1
2
3
4
5
L0201
C0208
C0209
C0210
TL0201
TL0202
TL0203
TL0204
TL0205
Q0201
Q0202
Q0203
P0201
R0204
R0207
R0208
R0209
R0211
R0212
R0213
C0206
C0207
IC0201
W1

CAPSTAN DRIVE C. B. A.	
Transistor	
Q0201 Q0202 Q0203	D-5 C-4 C-4
Integrated Circuit	
IC0201	B-5
Test Land	
TL0201 TL0202 TL0203 TL0204 TL0205	D-5 D-5 B-4 B-4 A-5
Connector	
P0201	C-5

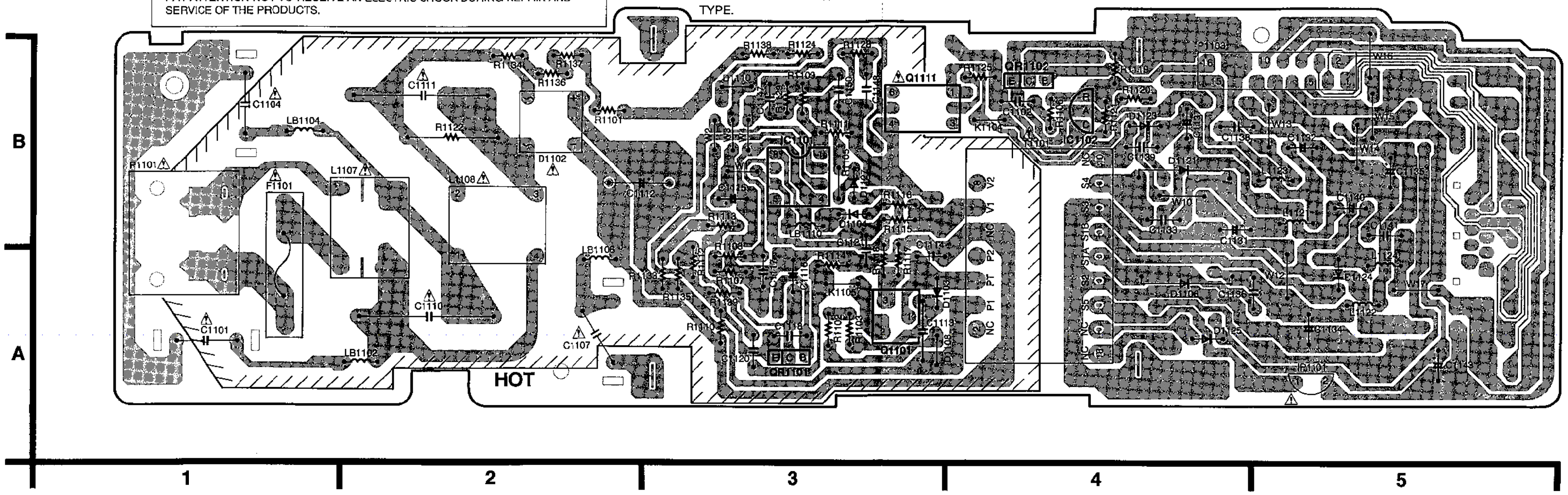
ADDRESS INFORMATION

3-21. POWER C.B.A. (VEP01768J)

CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

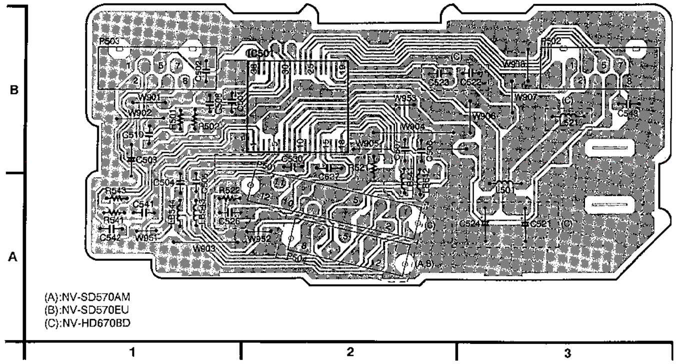
IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.


B
A
1
2
3
4
5
HOT
F1101
L1107
L1108
LB1104
LB1102
LB1106
C1101
C1104
C1107
C1110
C1111
R1101
R1122
R1134
R1136
R1137
R1138
R1124
R1128
D1102
Q1111
QR1101
QR1102
IC1101
IC1102
P1101

POWER C. B. A.	
Transistor	
Q1101 Q1111	A-3 B-3
Transistor & Resistor	
QR1101 QR1102	A-3 B-4
Integrated Circuit	
IC1101 IC1102	B-3 B-4
Connector	
P1101 P1103	B-1 B-4

ADDRESS INFORMATION

3-22. HEAD AMP C.B.A. (VEP05353B : NV-SD570AM/EU, VEP05353A : NV-HD670BD)

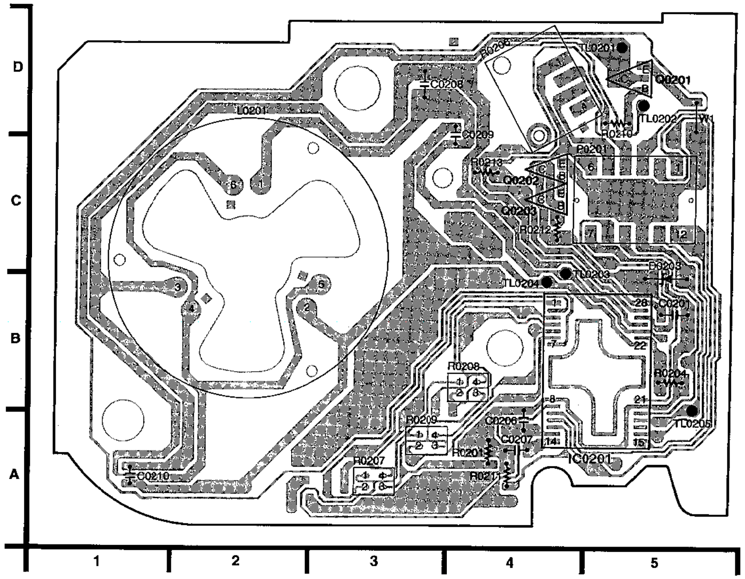

B
A
1
2
3
P503
IC501
W901
W902
W903
W906
W907
W908
C503
C504
C510
C521
C522
C523
C524
C541
C542
C548
R541
R543
R545
R560
P502

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

HEAD AMP C. B. A.	
Integrated Circuit	
IC501	B-2
Connector	
P501 P502 P503	A-2 B-3 B-1

ADDRESS INFORMATION

3-23. CAPSTAN DRIVE UNIT C.B.A. (VEP02553A)


D
C
B
A
1
2
3
4
5
TL0201
TL0202
TL0203
TL0204
TL0205
Q0201
Q0202
Q0203
P0201
L0201
C0208
C0209
C0210
C0206
C0207
R0207
R0208
R0209
R0211
R0212
R0213
IC0201

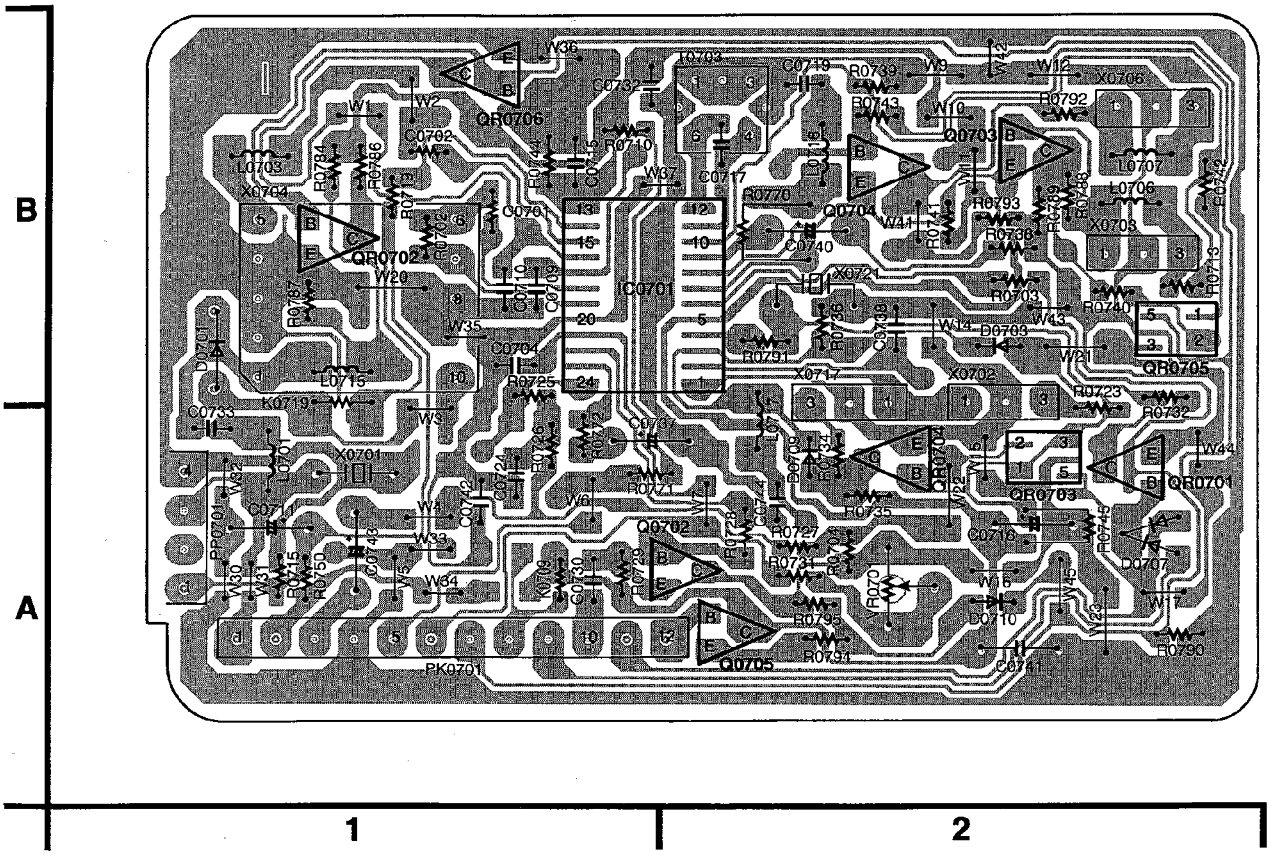
CAPSTAN DRIVE C. B. A.	
Transistor	
Q0201 Q0202 Q0203	D-5 C-4 C-4
Integrated Circuit	
IC0201	B-5
Test Land	
TL0201 TL0202 TL0203 TL0204 TL0205	D-5 D-5 B-4 B-4 A-5
Connector	
P0201	C-5

ADDRESS INFORMATION

3-24. TV DEMODULATOR C.B.A. (VEP07984A : NV-SD570AM/EU)

TV DEMODULATOR PACK C.B.A.			
Transistor		Integrated Circuit	
Q0702	A-2	IC0701	B-1
Q0703	B-2	Adjustment	
Q0704	B-2	VR0701	A-2
Q0705	A-2		
Transistor & Resistor		Connector	
QR0701	A-2	PK0701	A-1
QR0702	B-1	PP0701	A-1
QR0703	A-2		
QR0704	A-2		
QR0705	B-2		
QR0706	B-1		

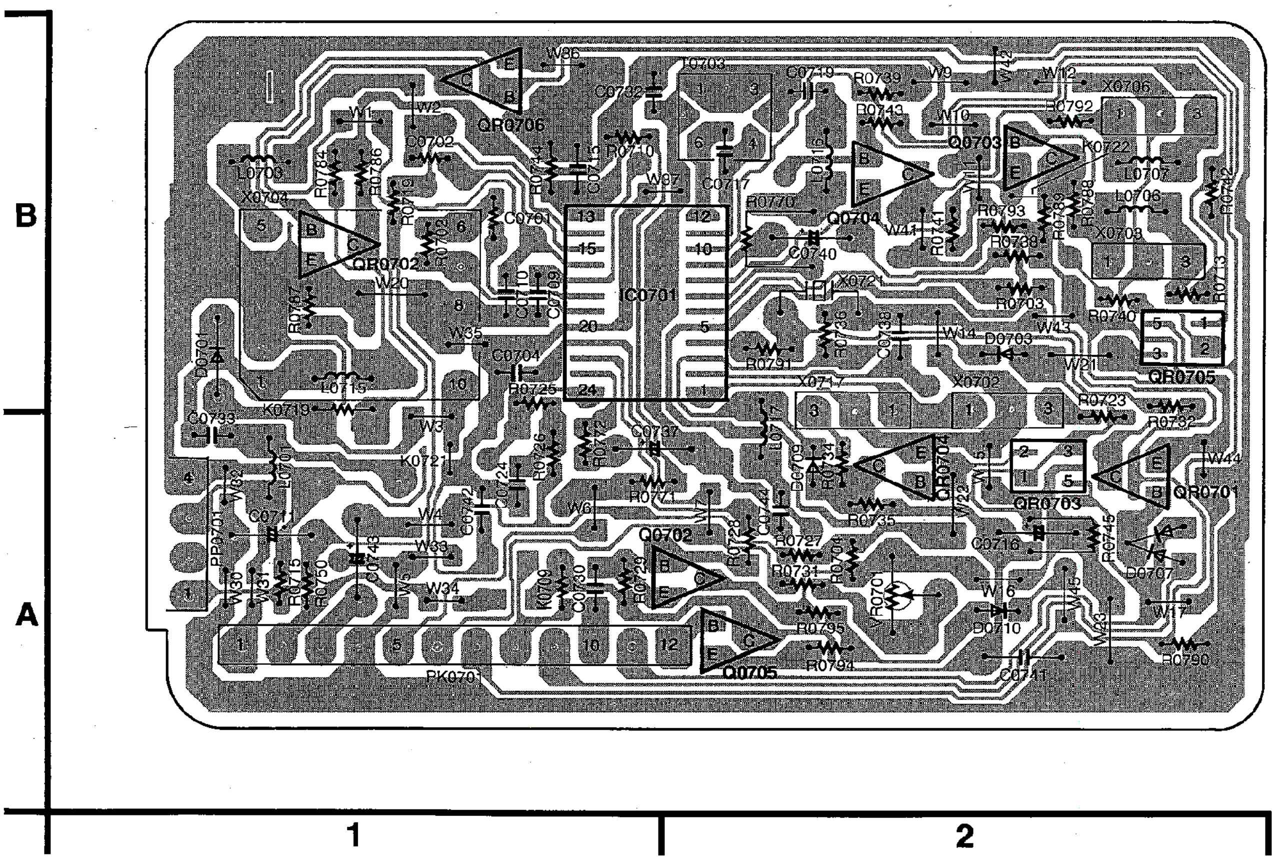
ADDRESS INFORMATION


B
A
1
2
QR0706
W36
T0703
C0719
R0739
W9
W42
W12
X0706
C0732
R0743
W10
R0792
W1
W2
C0702
R0744
C0715
R0710
Q0703
L0703
R0784
R0786
W37
C0717
L0707
L0706
X0704
R0770
Q0704
R0793
R0789
R0788
R0742
QR0702
C0701
IC0701
C0740
W41
R0741
R0738
X0703
W20
C0710
C0709
X0721
R0703
R0713
R0787
R0736
C0738
W14
D0703
W43
R0740
QR0705
W35
R0791
W21
D0701
L0715
C0704
R0725
X0717
X0702
R0723
C0733
K0719
W3
R0732
C0737
R0726
W44
PP0701
W32
L0701
X0701
QR0704
QR0701
C0711
W4
C0724
R0721
W6
QR0703
R0735
C0742
W5
W33
C0743
Q0702
R0727
C0718
R0745
D0707
R0715
R0750
W30
W31
W34
R0728
R0731
R0705
W16
W45
R0701
R0730
R0795
D0710
W23
W17
PK0701
Q0705
R0794
C0741
R0790

3-25. TV DEMODULATOR C.B.A. (VEP07946A : NV-HD670BD)

TV DEMODULATOR PACK C.B.A.			
Transistor		Integrated Circuit	
Q0702 Q0703 Q0704 Q0705	A-2 B-2 B-2 A-2	IC0701	B-1
		Adjustment	
		VR0701	A-2
Transistor & Resistor		Connector	
QR0701 QR0702 QR0703 QR0704 QR0705 QR0706	A-2 B-1 A-2 A-2 B-2 B-1	PK0701 PP0701	A-1 A-1

ADDRESS INFORMATION

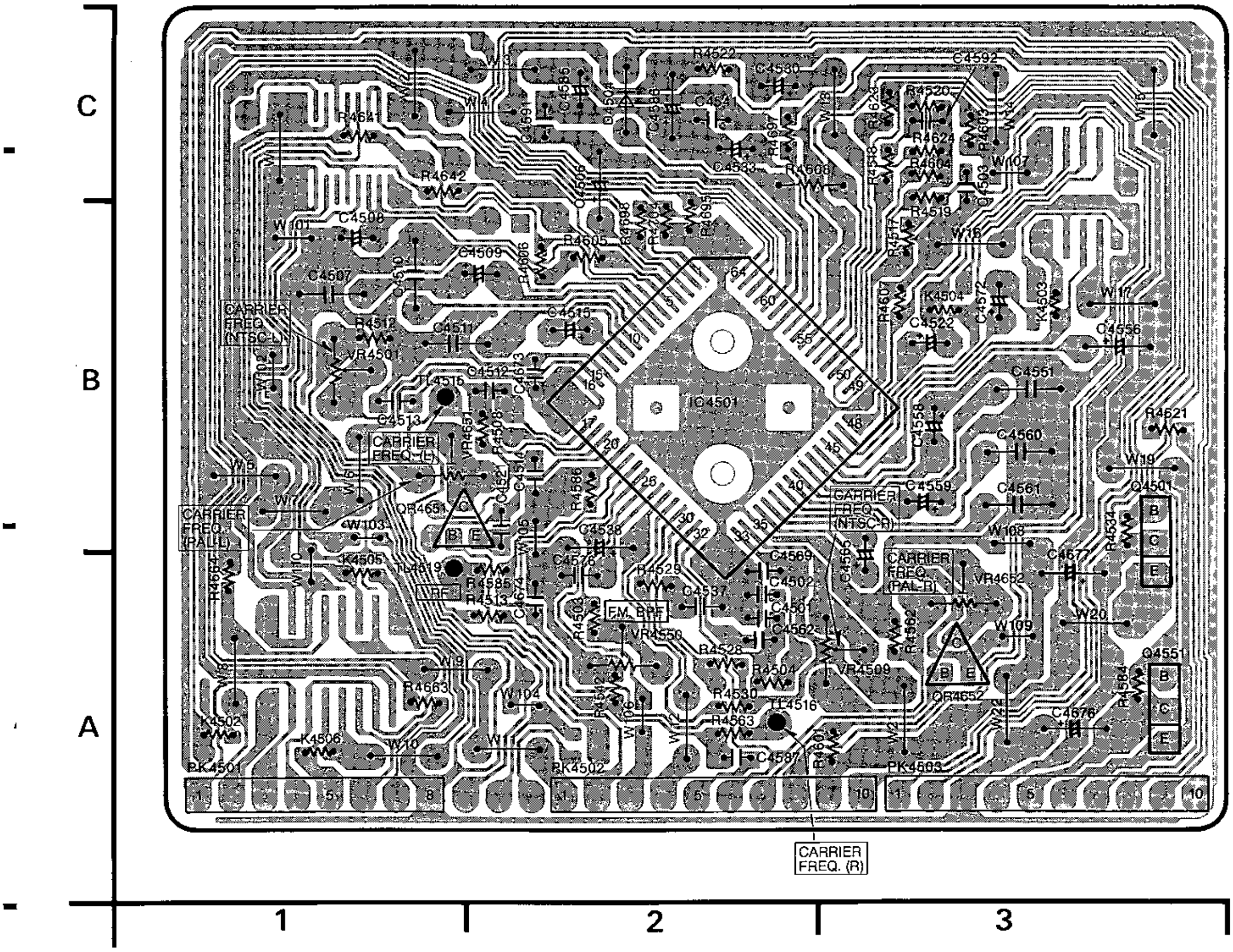


B
A
1
2
QR0706
W86
L0703
C0719
R0739
W9
W42
W12
X0706
C0732
R0743
W10
R0792
W1
W2
C0702
R0744
C0712
R0710
Q0703
K0722
L0703
R0784
R0786
R0719
W87
C0717
L0716
L0707
R0742
X0704
L0706
R0702
C0701
R0770
Q0704
W41
R0741
R0793
R0739
R0788
QR0702
C0740
R0738
X0703
W20
C0710
C0709
IC0701
X0721
R0713
R0767
W35
R0703
R0740
R0736
C0738
W14
D0703
W45
D0701
C0704
R0791
W21
QR0705
L0715
R0725
X0717
X0702
R0723
C0733
K0719
W3
R0732
R0726
R0772
C0737
R0777
W15
K0721
D0709
R0734
QR0704
W23
QR0703
QR0701
W44
W32
L0701
C0724
R0771
C0742
R0735
C0711
W4
W6
C0744
PP0701
C0743
W33
Q0702
R0728
R0727
C0716
R0745
R0715
R0750
R0731
R0704
D0707
W30
W31
W5
W34
K0709
C0730
R0729
VR0701
W16
W45
W43
W17
D0710
R0795
R0790
PK0701
Q0705
R0794
C0711

3-26. FM AUDIO PACK C.B.A. (VEP04664D: NV-HD670BD)

FM AUDIO PACK C.B.A.					
Transistor		Test Land		Connector	
Q4501	B-3	TL4515	B-1	PK4601	A-1
Q4551	A-3	TL4516	A-2	PK4602	A-2
Transistor & Resistor		TL4519	A-1	PK4603	A-3
QR4651	B-1	Adjustment			
QR4652	A-3	VR4501	B-1		
Integrated Circuit		VR4509	A-3		
IC4501	B-2	VR4550	A-2		
		VR4651	B-1		
		VR4652	A-3		

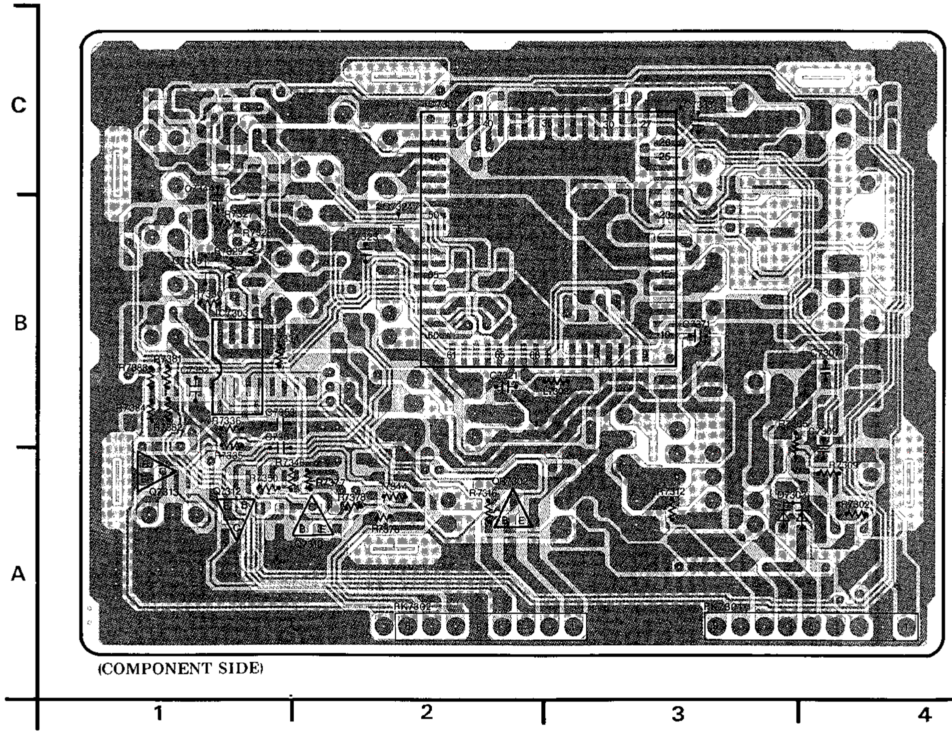
ADDRESS INFORMATION


C
B
A
1
2
3
IC4501
64
60
55
50
49
48
45
40
35
33
32
30
25
20
17
16
15
10
5
1
Q4501
Q4551
B
C
E
QR4651
QR4652
VR4501
VR4509
VR4550
VR4652
TL4515
TL4516
TL4519
PK4501
PK4502
PK4503
CARRIER FREQ. (NTSC-L)
CARRIER FREQ. (L)
CARRIER FREQ. (PAL-L)
CARRIER FREQ. (NTSC-R)
CARRIER FREQ. (PAL-R)
CARRIER FREQ. (R)
FM BPF
LPF
W1
W3
W4
W5
W6
W7
W8
W9
W10
W11
W12
W13
W14
W15
W16
W17
W18
W19
W20
W21
W101
W102
W103
W104
W105
W107
W108
W109
R4522
C4530
C4592
R4520
R4624
R4603
R4641
R4642
C4506
C4507
C4508
C4509
C4510
C4511
C4512
C4513
C4515
C4533
C4551
C4556
C4558
C4559
C4560
C4561
C4569
C4502
C4501
C4562
C4537
C4538
C4587
C4674
C4676
C4677
R4512
R4513
R4517
R4519
R4525
R4528
R4530
R4535
R4563
R4584
R4604
R4605
R4608
R4621
R4634
R4663
K4502
K4504
K4505
K4506
C4522
C4572
1
5
8
10

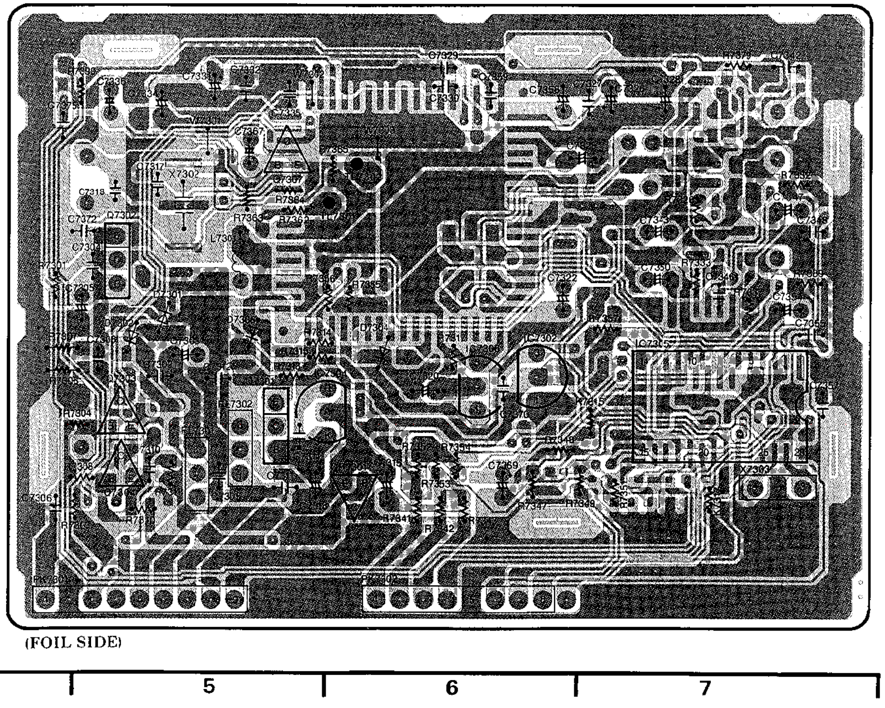
3-27. MSD PACK C.B.A. (VEP07787V : NV-HD670BD)

MSD PACK C.B.A.					
Transistor		Transistor & Resistor		Test Land	
Q7301	B-5 (F)	QR7301	A-6 (F)	TL7301	B-6 (F)
Q7302	B-5 (F)	QR7302	A-2 (C)	TL7302	C-6 (F)
Q7303	B-5 (F)	Integrated Circuit		Connector	
Q7304	A-5 (F)	IC7301	C-2 (C)	PK7301	A-3 (C)
Q7307	C-5 (F)	IC7302	B-6 (F)	PK7301	A-4 (F)
Q7310	A-2 (C)	IC7303	B-1 (C)	PK7302	A-2 (C)
Q7312	A-1 (C)	IC7304	B-5 (F)	PK7302	A-6 (F)
Q7313	A-1 (C)	IC7305	B-7 (F)		
		IC7306	B-6 (F)		

ADDRESS INFORMATION (F):FOIL SIDE (C):COMPONENT SIDE

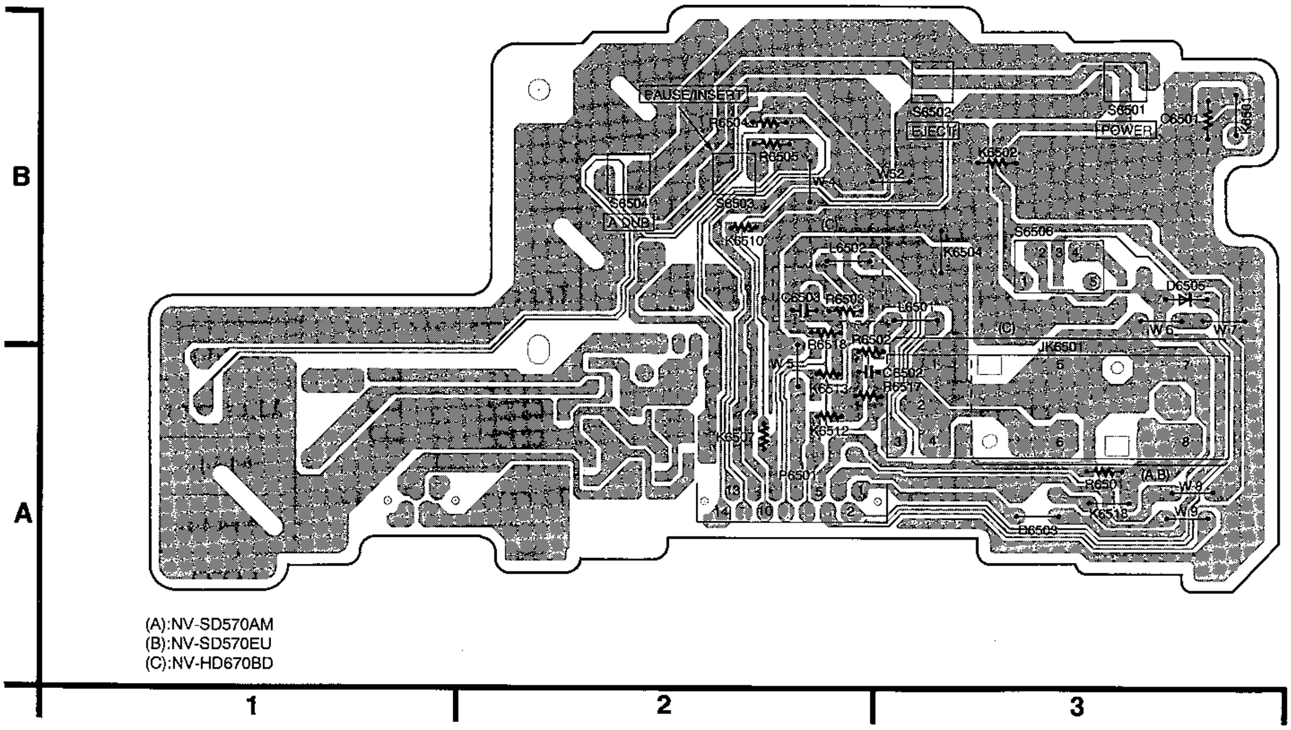


(COMPONENT SIDE)



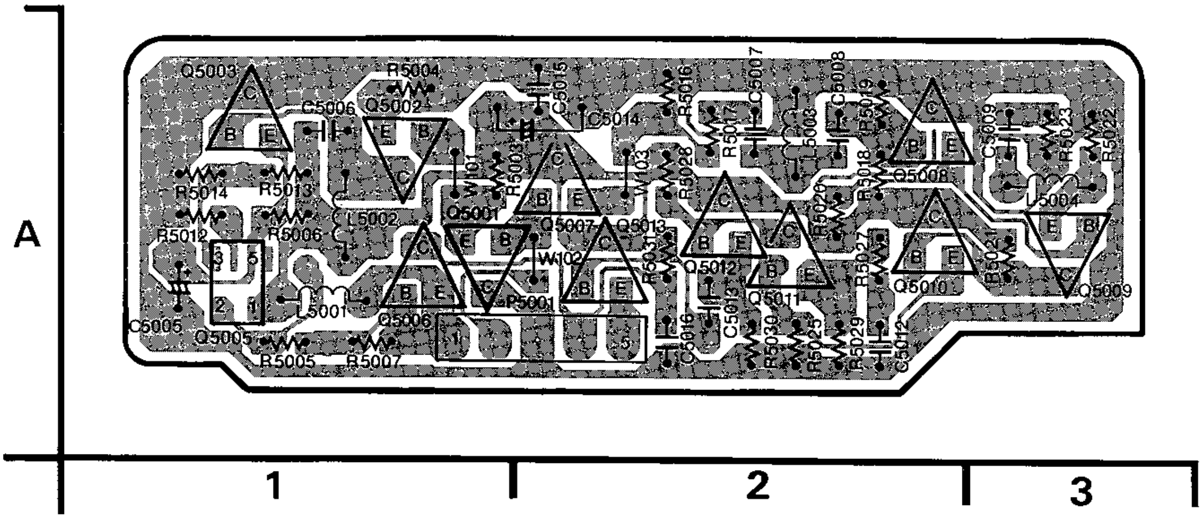
(FOIL SIDE)

3-28. FRONT C.B.A. (VEP06B92C : NV-SD570AM/EU) (VEP06B92B : NV-HD670BD)

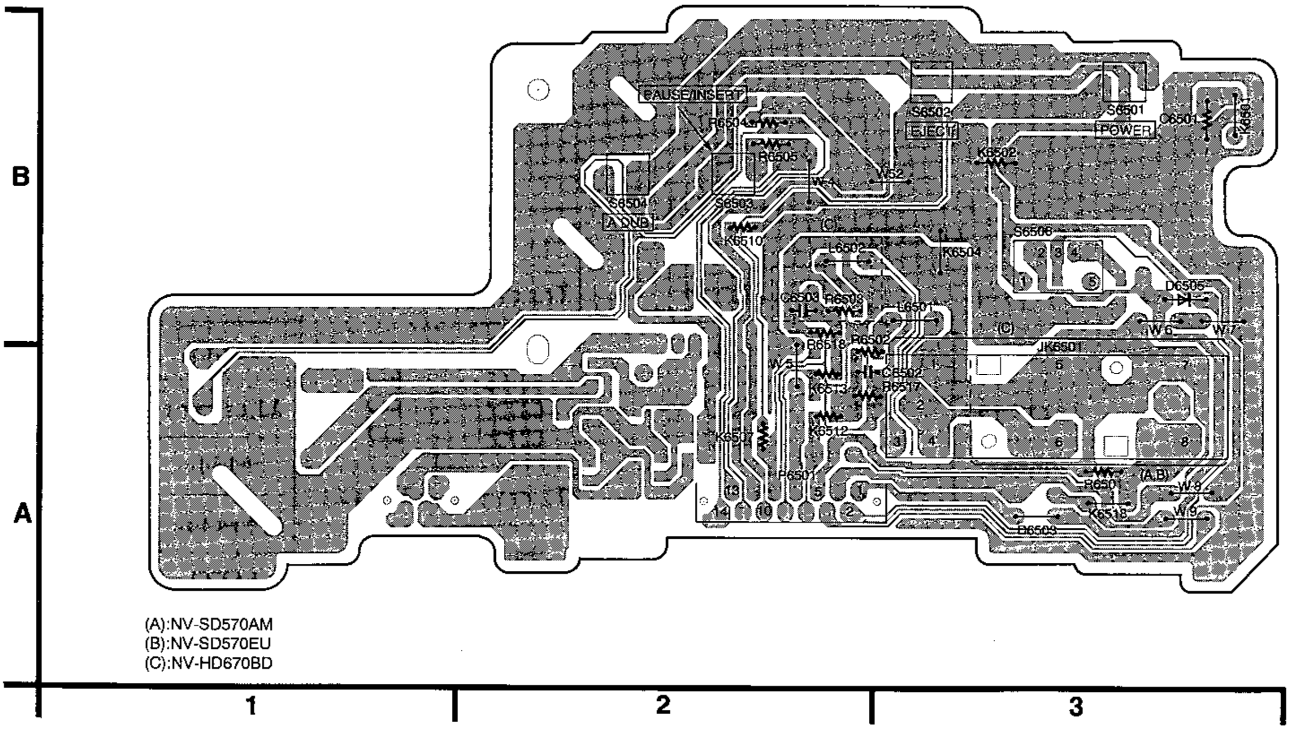

B
A
1
2
3
PAUSE/INSERT
R6504
R6505
S6504
A.DUB
S6503
K6510
W-1
W52
S6502
EJECT
S6501
POWER
C6501
K6501
K6502
S6506
L6502
K6504
D6505
C6503
R6508
L6501
R6518
R6502
JK6501
W-6
W-7
W-5
C6502
K6513
R6517
K6512
K6511
R6501
R6503
K6518
W-8
W-9
B6503
(A,B)
(C)

(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD

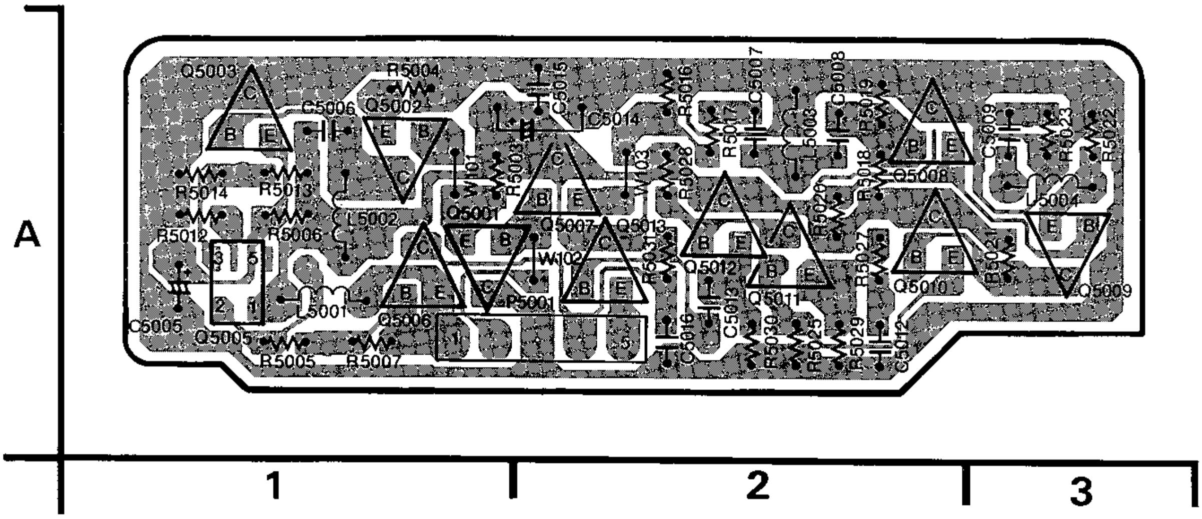
3-29. S-VHS PLAYBACK PACK C.B.A. (VEP03A03B : NV-HD670BD)


A
1
2
3
Q5003
R5004
C5015
C5006
Q5002
C5014
R5016
C5007
C5008
R5017
R5019
L5003
C5009
R5023
R5022
R5014
R5013
W101
R5003
Q5001
W103
R5028
R5018
Q5008
L5004
R5012
R5006
L5002
Q5007
Q5013
R5031
Q5012
R5026
R5027
R5021
Q5011
Q5010
Q5009
W102
C5005
L5001
P5001
Q5006
Q5005
R5005
R5007
C5016
C5013
R5030
R5025
R5029
C5012
B
C
E

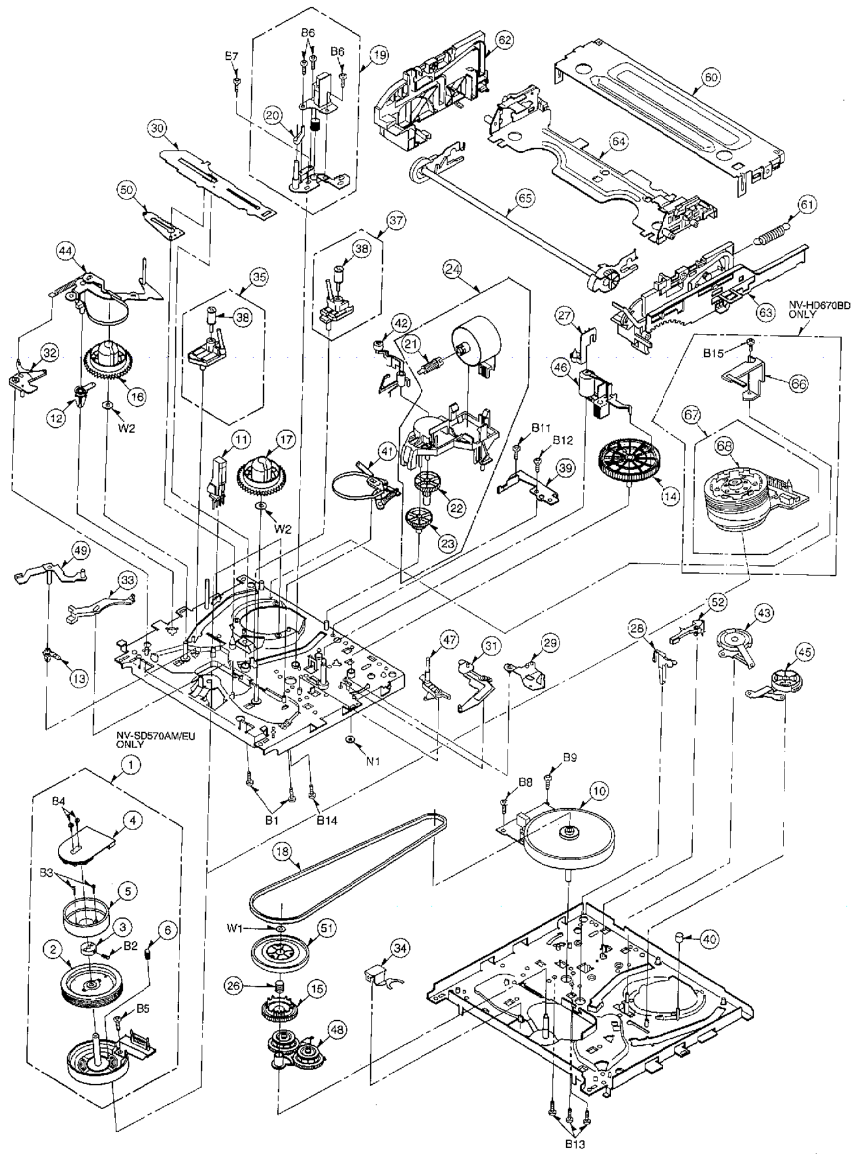
3-28. FRONT C.B.A. (VEP06B92C : NV-SD570AM/EU) (VEP06B92B : NV-HD670BD)


PAUSE/INSERT
R6504
R6505
S6502
EJECT
S6501
POWER
C6501
K6501
K6502
W52
S6504
A.DUB
S6503
K6510
(C)
L6502
K6504
S6506
D6505
C6503
R6508
L6501
R6518
R6502
(C)
JK6501
W6
W7
W5
C6502
K6513
R6517
K6512
K6511
R6501
R6501
(A,B)
W8
K6518
W9
B6503
(A):NV-SD570AM
(B):NV-SD570EU
(C):NV-HD670BD
B
A
1
2
3

3-29. S-VHS PLAYBACK PACK C.B.A. (VEP03A03B : NV-HD670BD)


Q5003
R5004
C5015
C5006
Q5002
C5014
R5016
C5007
C5008
R5017
L5003
R5019
C5009
R5023
R5022
R5014
R5013
W101
R5003
W103
R5028
R5018
Q5008
L5004
R5012
R5006
L5002
Q5001
Q5007
Q5013
R5026
R5027
W102
R5031
Q5012
Q5011
Q5010
R5021
Q5009
C5005
Q5005
L5001
P5001
Q5006
R5005
R5007
C5016
C5013
R5030
R5025
R5029
C5012
A
1
2
3

SECTION 4
EXPLODED VIEWS & PARTS LIST
4-1. EXPLODED VIEW MECHANICAL REPLACEMENT PARTS LIST
1. CHASSIS PARTS SECTION

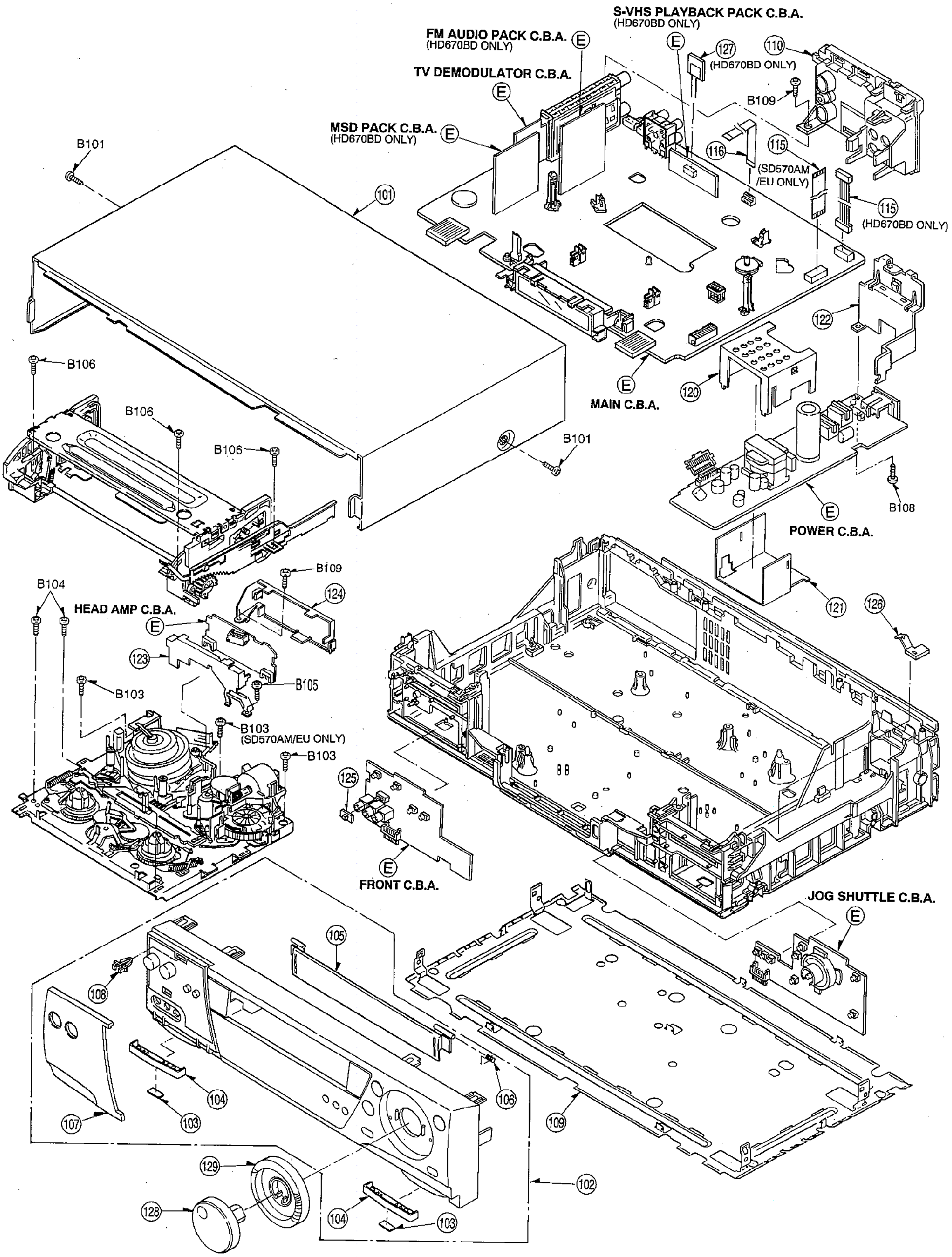


Note: 1.* Be sure to make your orders of replacement parts according to this list.

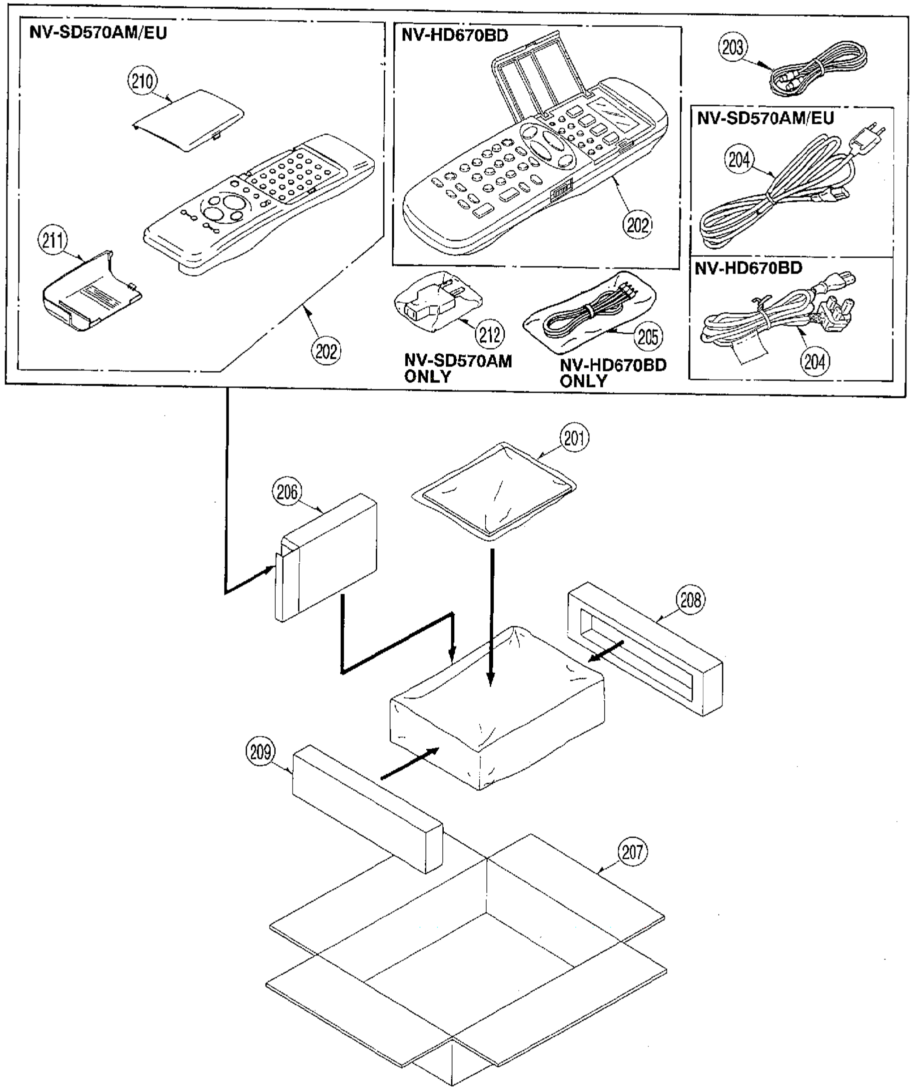
2. IMPORTANT SAFETY NOTICE
Components identified with the mark < ! > have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref. No.		Part No.	Part Name & Description	Pcs	Remarks
1	(1)	VEG1405	CYLINDER UNIT	1	NV-SD570AM/EU
2	(1)	VEH0841	UPPER CYLINDER UNIT	1	NV-SD570AM/EU
3	(1)	VDB1256	CYLINDER RETAINER	1	NV-SD570AM/EU
⚠ 4	(1)	VEK7236	CYLINDER STATOR UNIT	1	NV-SD570AM/EU
5	(1)	VXP1823	CYLINDER ROTOR UNIT	1	NV-SD570AM/EU
6	(1)	VXS0135	EARTH BRUSH UNIT	1	
10	(1)	VEK8239	CAPSTAN UNIT	1	
11	(1)	VBS0155	FE HEAD	1	
12	(1)	VDB1431	TENSION ARM BOSS	1	
13	(1)	VDB1460	SUPPLY BRAKE ARM BOSS	1	
14	(1)	VDG1220	MAIN CAM GEAR	1	
15	(1)	VDG1221	CONVERSION GEAR	1	
16	(1)	VDR0346	SUPPLY REEL TABLE	1	
17	(1)	VDR0347	TAKE UP REEL TABLE	1	
18	(1)	VDV0372	CAPSTAN BELT	1	
19	(1)	VED0363	A/C HEAD UNIT	1	
20	(1)	VMX2656	P4 CAP	1	
21	(1)	VDG1217	WORM GEAR	1	
22	(1)	VDG1218	WORM WHEEL GEAR	1	
23	(1)	VDG1219	CENTRE GEAR	1	
24	(1)	VEM0604	LOADING MOTOR UNIT	1	
26	(1)	VMB3045	CONVERSION GEAR SPRING	1	
27	(1)	VMD2620	OPENER PIECE	1	
28	(1)	VMD2738	LED PRISM	1	
29	(1)	VML3165	DRIVE RACK ARM	1	
30	(1)	VML3166	MAIN LEVER	1	
31	(1)	VML3167	DRIVE MAIN LEVER ARM	1	
32	(1)	VML3172	SUPPLY SPRING ARM	1	
33	(1)	VML3176	CONVERSION LEVER A	1	
34	(1)	VML3177	CONVERSION LEVER B	1	
35	(1)	VXA6040	INCLINED BASE (S) UNIT	1	
37	(1)	VXA5854	INCLINED BASE (T) UNIT	1	
38	(1)	VXP1840	ROLLER POST	2	
39	(1)	VMA9672	SUPPORT ANGLE	1	
40	(1)	VMX2639	CIRCUIT BOARD PROTECTOR	1	
41	(1)	VXL2667	TAKE UP BRAKE ARM UNIT	1	
42	(1)	VXL2669	CLEANER ARM UNIT	1	
43	(1)	VXL2670	TAKE UP LOADING ARM UNIT	1	
44	(1)	VXL2793	TENSION ARM UNIT	1	
45	(1)	VXL2672	SUPPLY LOADING ARM UNIT	1	
46	(1)	VXL2785	PINCH ARM UNIT	1	NV-HD670BD
46	(1)	VXL2676	PINCH ARM UNIT	1	NV-SD570AM/EU
47	(1)	VXL2677	P5 ARM UNIT	1	
48	(1)	VXL2792	IDLER ARM UNIT	1	
49	(1)	VXL2737	SUPPLY BRAKE ARM UNIT	1	
50	(1)	VXL2747	LOADING RACK UNIT	1	
51	(1)	VXP1850	CENTRE CLUTCH UNIT	1	
52	(1)	VXZ0430	SS BRAKE ARM UNIT	1	
60	(1)	VMA9516	TOP PLATE	1	
61	(1)	VMB3047	CONNECTION SPRING	1	
62	(1)	VMD2625	SIDE PLATE (L)	1	
63	(1)	VXA5740	SIDE PLATE (R) UNIT	1	
64	(1)	VXA5746	CASSETTE HOLDER UNIT	1	
65	(1)	VXP1730	MAIN SHAFT UNIT	1	
66	(1)	VXS0244	EARTH PLATE UNIT	1	NV-HD670BD
67	(1)	VEG1436	CYLINDER UNIT	1	NV-HD670BD
68	(1)	VXP1837	UPPER CYLINDER UNIT	1	NV-HD670BD
B1	(1)	VHD1118	SCREW	2	NV-HD670BD
B1	(1)	VHD1117	SCREW	2	NV-SD570AM/EU
B2	(1)	VHD0842	SCREW	1	NV-SD570AM/EU
B3	(1)	VHD0843	SCREW	2	NV-SD570AM/EU
B4	(1)	VHD0844	SCREW	2	NV-SD570AM/EU
B5	(1)	XYN26+C5	SCREW	1	NV-SD570AM/EU
B6	(1)	VHD1066	SCREW	3	
B7	(1)	VHD1044	SCREW	1	
B8	(1)	VHD1060	SCREW	1	
B9	(1)	VHD1071	SCREW	1	
B11	(1)	XTS26+6F	SCREW	1	
B12	(1)	XTN26+6F	SCREW	1	
B13	(1)	XTN26+7J	SCREW	3	
B14	(1)	VHD1118	SCREW	1	NV-HD670BD
B14	(1)	VHD1095	SCREW	1	NV-SD570AM/EU
B15	(1)	XTV26+6FFZ	SCREW	1	NV-HD670BD
N1	(1)	VHN0311	PUSH NUT	1	
W1	(1)	VMX2208	WASHER	1	
W2	(1)	VMX2650	WASHER	2	

2. CASING PARTS SECTION


S-VHS PLAYBACK PACK C.B.A.
(HD670BD ONLY)
FM AUDIO PACK C.B.A.
(HD670BD ONLY)
E
TV DEMODULATOR C.B.A.
E
MSD PACK C.B.A.
(HD670BD ONLY)
E
E
127
110
(HD670BD ONLY)
B109
116
115
(SD570AM
/EU ONLY)
115
(HD670BD ONLY)
B101
101
122
E
MAIN C.B.A.
120
B106
B106
B106
B101
E
POWER C.B.A.
B108
B109
124
B104
HEAD AMP C.B.A.
E
123
B105
B103
B103
(SD570AM/EU ONLY)
B103
121
126
125
E
FRONT C.B.A.
JOG SHUTTLE C.B.A.
E
105
108
104
106
107
103
109
129
102
128
104
103

3. PACKING PARTS SECTION



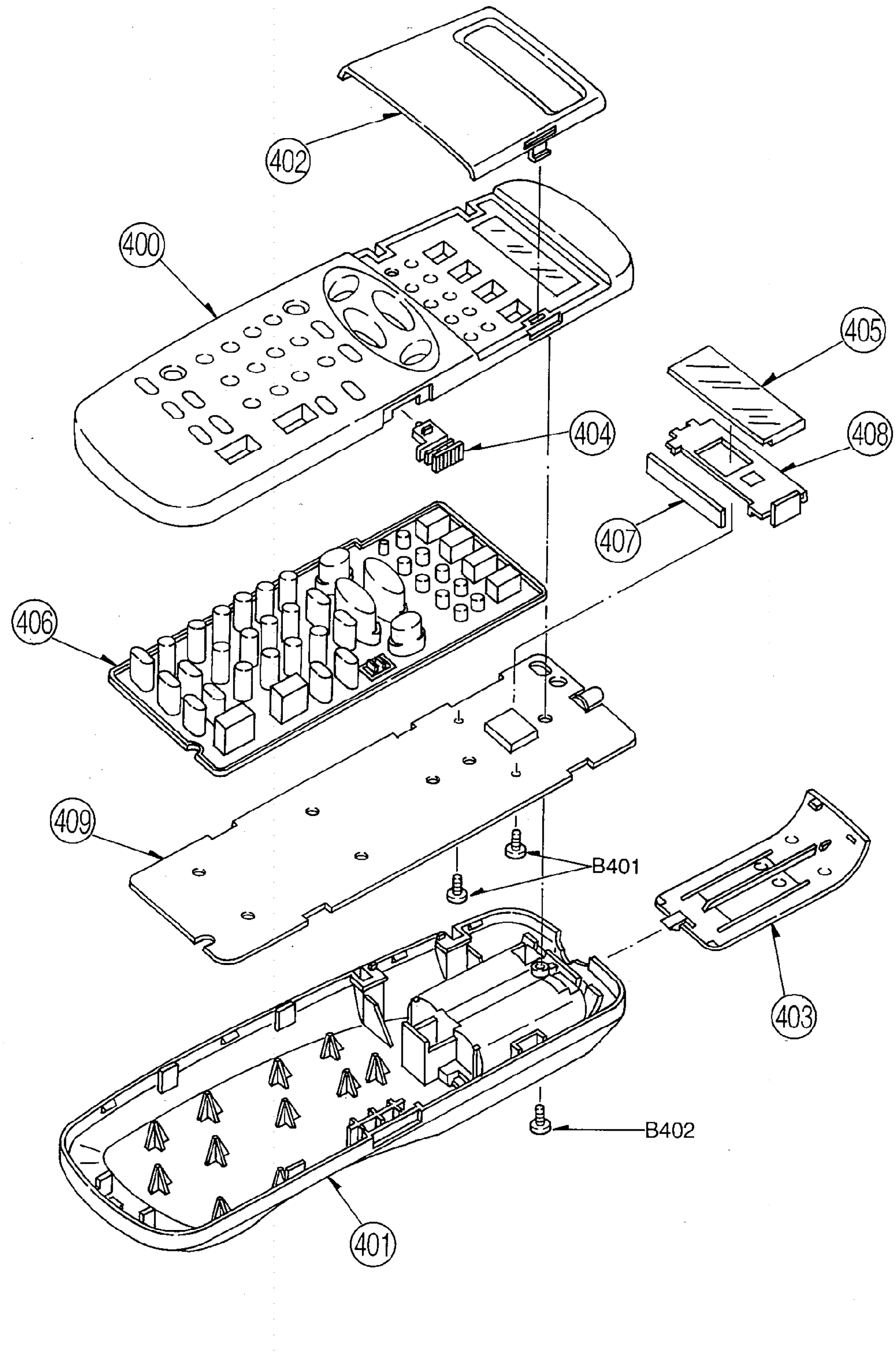
Note: 1.* Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE
Components identified with the mark < ! > have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
101 (2)	VGM1364	TOP PANEL	1	
102 (2)	VYP6663	FRONT PANEL UNIT	1	NV-HD670BD
102 (2)	VYP6664	FRONT PANEL UNIT	1	NV-SD570AM/EU
103 (2)	VKA0122	FOOT	2	
104 (2)	VKA0303	LEG	1	
105 (2)	VKF2753	BLINDER PANEL	1	NV-HD670BD
105 (2)	VKF2667	BLINDER PANEL	1	NV-SD570AM/EU
106 (2)	VMB2521	BLINDER SPRING	1	
107 (2)	VKF2796	DOOR	1	NV-HD670BD
107 (2)	VKF2797	DOOR	1	NV-SD570AM/EU
108 (2)	VGQ0550	LUTCH	1	
109 (2)	VKU0519	BOTTOM PLATE	1	
110 (2)	VJH1007	ANTENNA JACK PLATE	1	NV-HD670BD
110 (2)	VJH1009	ANTENNA JACK PLATE	1	NV-SD570AM/EU
115 (2)	VEE0B34	WIRE CABLE	1	P2501 - CYLINDER (9P)
			1	NV-HD670BD ONLY
115 (2)	VWJ1206	FLAT CARD CABLE	1	P2502 - UDD (9P)
				NV-SD570AM/EU ONLY
116 (2)	VWJ1128	FLAT CARD CABLE	1	P4001 - AC HEAD (6P)
120 (2)	VSC4205	POWER SHIELD COVER	1	
⚠ 121 (2)	VMZ2378	BARRIER	1	
122 (2)	VMP5133	POWER PLATE	1	
123 (2)	VSC4628	HEAD AMP SHIELD COVER	1	
124 (2)	VSC4629	HEAD AMP SHIELD COVER	1	
125 (2)	VGU4537	SLIDE KNOB	1	
126 (2)	VMC1065	EARTH SPRING	1	
127 (2)	VEK8192	DEW SENSOR	1	NV-HD670BD ONLY
128 (2)	VGU7598	JOG DIAL	1	
129 (2)	VGU7599	SHUTTLE RING	1	
B101 (2)	XTW3+10TFZ	SCREW	2	
B103 (2)	VHD1065	SCREW	2	NV-HD670BD
B103 (2)	VHD1065	SCREW	3	NV-SD570AM/EU
B104 (2)	VHD0168	SCREW	2	
B105 (2)	XTV26+6FR	SCREW	1	
B106 (2)	XTV26+8FR	SCREW	3	
B108 (2)	VHD0418	SCREW	1	
B109 (2)	VHD0773	SCREW	2	
⚠ 201 (3)	VQT7110	OPERATING INSTRUCTIONS	1	NV-HD670BD
		(ENGLISH, CHINESE)		
⚠ 201 (3)	VQT7111	OPERATING INSTRUCTIONS	1	NV-SD570AM
		(ENGLISH, ARABIC, RUSSIAN)		
⚠ 201 (3)	VQT7112	OPERATING INSTRUCTIONS	1	NV-SD570EU
		(ENGLISH, RUSSIAN)		
202 (3)	VEQ1994	REMOTE CONTROLLER	1	NV-HD670BD
202 (3)	VEQ1993	REMOTE CONTROLLER	1	NV-SD570AM/EU
203 (3)	VJA0376	DIN RF CABLE	1	
⚠ 204 (3)	VJA0733	AC CORD	1	NV-HD670BD
⚠ 204 (3)	VJA0713	AC CORD	1	NV-SD570AM
⚠ 204 (3)	VJA0664	AC CORD	1	NV-SD570EU
205 (3)	VJA0788	AV CABLE	1	NV-HD670BD
206 (3)	VPK0825	ACCESSORIES PACKING	1	NV-HD670BD
206 (3)	VPK1726	ACCESSORIES PACKING	1	NV-SD570AM/EU
207 (3)	VPG9121	PACKING CASE	1	NV-HD670BD
207 (3)	VPG9122	PACKING CASE	1	NV-SD570AM
207 (3)	VPG9123	PACKING CASE	1	NV-SD570EU
208 (3)	VPN4750	CUSHION (R)	1	
209 (3)	VPN4751	CUSHION (L)	1	
210 (3)	VGP4591	DOOR PANEL	1	NV-SD570AM/EU
211 (3)	VKF2798	BATTERY COVER	1	NV-SD570AM/EU
⚠ 212 (3)	VJP2974	AC PLUG ADAPTOR	1	NV-SD570AM

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
		SERVICE FIXTURES & TOOLS		
	VFJ8125H3F	VHS ALIGNMENT TAPE (PAL)	1	
	VFK0335	RETAINING RING REMOVER	1	
		(3mm/4mm)		
	VFK0329	POST ADJ. SCREW DRIVER	1	
	VFK0326	HEX WRENCH SET	1	
	VFK0132	BACK TENSION METER	1	
	VFK27	HEAD CLEANING STICK	1	
	VFK1024	MORLYTONE GREASE	1	
	VFK0680	WHITE GREASE	1	
	VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
	VFK2744	16P EXTENSION CABLE	1	
	VFK1301	SILICON GREASE	1	
	VFK1298	FLOIL GREASE	1	

4. REMOTE CONTROLLER UNIT (NV-HD670BD)


402
400
405
404
408
407
406
409
B401
403
B402
401

4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark < ! > have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf) , P=uuF.
4. The P.C.Board units marked width'+'show below the main assembled parts.
5. The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP06C05J	MAIN C. B. A.	1	(RTL)
		(Page:4-7)		NV-HD670BD
				INCLUDING THE
				SQ PB PACK C. B. A.
				(VEP03A03B).
				HI-FI AUDIO PACK
				C. B. A. (VEP04664D).
				MSD C. B. A. (VEP07787V).
				TV DEMODULATOR PACK
				C. B. A. (VEP07946A).
■	VEP03A03B	SQ PB PACK C. B. A.	1	(RTL)
				C. B. A. IS INCLUDED IN
				MAIN C. B. A. (VEP06C05J).
■	VEP04664D	HI-FI AUDIO PACK C. B. A.	1	(RTL)
				C. B. A. IS INCLUDED IN
				MAIN C. B. A. (VEP06C05J).
■	VEP07787V	MSD C. B. A.	1	(RTL)
				C. B. A. IS INCLUDED IN
				MAIN C. B. A. (VEP06C05J).
■	VEP07946A	TV DEMODULATOR PACK C. B. A	1	(RTL)
				C. B. A. IS INCLUDED IN
				MAIN C. B. A. (VEP06C05J).
■	VEP06C05K	MAIN C. B. A.	1	(RTL)
		(Page:4-13)		NV-SD570AM/EU
				INCLUDING THE
				TV DEMODULATOR PACK
				C. B. A. (VEP07984A).
■	VEP07984A	TV DEMODULATOR PACK C. B. A	1	(RTL) NV-SD570AM/EU
				C. B. A. IS INCLUDED IN
				MAIN C. B. A. (VEP06C05K).
■	VEP05353A	HEAD AMP C. B. A.	1	(RTL)
		(Page:4-16)		NV-HD670BD
■	VEP05353B	HEAD AMP C. B. A.	1	(RTL)
		(Page:4-17)		NV-SD570AM/EU
■	VEP06B92B	FRONT C. B. A.	1	(RTL)
		(Page:4-17)		NV-HD670BD
■	VEP06B92C	FRONT C. B. A.	1	(RTL)
		(Page:4-17)		NV-SD570AM/EU
⚠ ■	VEP01768J	POWER C. B. A.	1	(RTL)
		(Page:4-17)		
■	VEP07947A	JOG C. B. A.	1	(RTL)
		(Page:4-18)		
■	----------	CYLINDER STATOR C. B. A.	1	NV-SD570AM/EU
		(Page:4-18)		C. B. A. IS INCLUDED IN
				CYLINDER STATOR UNIT
				(VEK7236).
■	----------	RT CONNECTION C. B. A.	1	NV-SD570AM/EU
		(Page:4-18)		C. B. A. IS INCLUDED IN
				CYLINDER UNIT.
⚠	ENG47254G	TUNER	1	
⚠ F1101	XBA2C16TB0	FUSE	1	
■	VEP06C05J	MAIN C. B. A.		(RTL)
				NV-HD670BD
C0701, 02	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
C0704	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0709	ECUM1H473KBN	C. CAPACITOR CH 50V 0. 047U	1	
C0710	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C0711	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C0716	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C0717	ECUM1H330JRV	C. CAPACITOR CH 50V 33P	1	
C0719	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C0724	ECUM1H473KBN	C. CAPACITOR CH 50V 0. 047U	1	
C0730	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C0732, 33	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	2	
C0737	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C0738	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C0740	ECEA1HKAR47	E. CAPACITOR 50V 0. 47U	1	
C0741	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
C0742	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0743	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0744	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C1001	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1002	VCEA0JCB220	E. CAPASITOR 6. 3V 22U	1	
C1003	VCEA1ECB470	E. CAPACITOR 25V 47U	1	
C1004	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C1005	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1006	VCEA1CEC470	E. CAPACITOR 16V 47U	1	
C1007	VCEA1CEC101	E. CAPACITOR 16V 100U	1	
C1008	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1009	VCEA1EJC470	E. CAPACITOR 25V 47U	1	
C1010	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C1011	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1012	VCEA0JBS470	E. CAPASITOR 6. 3V 47U	1	
C1013	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2009	ECUM1E683KBN	C. CAPACITOR CH 25V 0. 068U	1	
C2010	ECUM1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2011	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C2012	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C2013	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2014	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C2015	VCEA1HCB4R7	E. CAPACITOR 50V 4. 7U	1	
C2016	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C2017	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C2018	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C2021	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C2501	ECUM1H473ZFN	C. CAPACITOR CH 50V 0. 047U	1	
C2502	ECEA1VKN4R7	E. CAPACITOR 35V 4. 7U	1	
C2504-06	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	3	
C2507	ECQV1H683JM	P. CAPACITOR 50V 0. 068U	1	
C2508	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C2509	VCEA1ECB470	E. CAPACITOR 25V 47U	1	
C2514, 15	ECEA1VKN4R7	E. CAPACITOR 35V 4. 7U	2	
C3001	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C3002	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C3003	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3004	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3005	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3006	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C3007	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3008	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C3009	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	1	
C3010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3011	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C3012	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	1	
C3013	VCEA1HCB4R7	E. CAPACITOR 50V 4. 7U	1	
C3014	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3016	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C3017, 18	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C3019	VCEA0JCB220	E. CAPASITOR 6. 3V 22U	1	
C3020	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3021	ECUM1C474KBN	C. CAPACITOR CH 16V 0. 47U	1	
C3022	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3023	VCEA1CCB100	E. CAPACITOR 16V 10U	1	
C3024	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3025	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3026	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	1	
C3027	ECUM1C474KBN	C. CAPACITOR CH 16V 0. 47U	1	
C3028	VCEA1CCB100	E. CAPACITOR 16V 10U	1	
C3029	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C3030	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3031	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C3032	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3033	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C3034	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C3035	ECUM1H040CCN	C. CAPACITOR CH 50V 4P	1	
C3036	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3037	VCEA0JEC471	E. CAPASITOR 6. 3V 470U	1	
C3040, 41	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	2	
C3042, 43	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	2	
C3044	ECUM1C474KBN	C. CAPACITOR CH 16V 0. 47U	1	
C3045	VCEA0JCB470	E. CAPASITOR 6. 3V 47U	1	
C3046	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3048	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3049-51	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	3	
C3052	ECUM1C334KBN	C. CAPACITOR CH 16V 0. 33U	1	
C3053	ECUM1E223KBN	C. CAPACITOR CH 25V 0. 022U	1	
C3054	VCEA0JCB220	E. CAPASITOR 6. 3V 22U	1	
C3055	VCEA1HCB2R2	E. CAPACITOR 50V 2. 2U	1	
C3056	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3057	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C3058	ECUM1E223KBN	C. CAPACITOR CH 25V 0. 022U	1	
C3059-61	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	3	
C3062	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3063	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3064	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C3065	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3066	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C3067	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3068	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3069	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3070	ECUM1C334KBN	C. CAPACITOR CH 16V 0. 33U	1	
C3071	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C3072	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C3073	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3074	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3076	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3080	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C3081	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C3089, 90	VCEA0JCB330	E. CAPASITOR 6. 3V 33U	2	
C3092	VCEA1HCB2R2	E. CAPACITOR 50V 2. 2U	1	
C3093	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C4001	ECUM1H182JCN	C. CAPACITOR CH 50V 1800P	1	
C4002	VCEA0JCB220	E. CAPASITOR 6. 3V 22U	1	
C4003	VCEA1HCB010	E. CAPACITOR 50V 1U	1	
C4004	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4005	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4006	VCEA1HCB4R7	E. CAPACITOR 50V 4. 7U	1	
C4007	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4008	VCEA1CCB100	E. CAPACITOR 16V 10U	1	
C4009	VCEA1HCB010	E. CAPACITOR 50V 1U	1	
C4010	VCEA0JCB470	E. CAPASITOR 6. 3V 47U	1	
C4011	VCEA0JCB220	E. CAPASITOR 6. 3V 22U	1	
C4012	VCEA1HCB010	E. CAPACITOR 50V 1U	1	
C4015	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C4016	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C4017	ECUX1E273KBN	C. CAPACITOR CH 25V 0. 027U	1	
C4018	ECUM1E223KBN	C. CAPACITOR CH 25V 0. 022U	1	
C4019	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4020	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C4021	ECQV1H154JM	P. CAPACITOR 50V 0. 15U	1	
C4022	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C4023	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C4024	ECQB1H333KF	P. CAPACITOR 50V 0. 033U	1	
C4025	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C4026	ECUM1H223KBN	C. CAPACITOR CH 50V 0. 022U	1	
C4027, 28	VCEA0JCB470	E. CAPASITOR 6. 3V 47U	2	
C4029, 30	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4035	VCEA1CCB100	E. CAPACITOR 16V 10U	1	
C4037	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4038	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
C4078	VCEA0JCB470	E. CAPASITOR 6. 3V 47U	1	
C4501	ECUX1H681JCV	C. CAPACITOR CH 50V 680P	1	
C4502	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4503	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4506	ECA1CAK100X	E. CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P. CAPACITOR 50V 0. 022U	1	
C4508	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4509	ECA1CAK470X	E. CAPACITOR 16V 47U	1	
C4510	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C4511	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4513	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C4514	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C4515	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4521	ECUM1H473KBN	C. CAPACITOR CH 50V 0. 047U	1	
C4522	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4530	ECA0JAK470X	E. CAPACITOR 6. 3V 47U	1	
C4533	ECA1CAK470X	E. CAPACITOR 16V 47U	1	
C4537	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4538	ECA1HAKR47X	E. CAPACITOR 50V 0. 47U	1	
C4541	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C4551	ECQB1H223JF	P. CAPACITOR 50V 0. 022U	1	
C4556	ECA1CAK100X	E. CAPACITOR 16V 10U	1	
C4558	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4559	ECA1CAK470X	E. CAPACITOR 16V 47U	1	
C4560	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C4561	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4565	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4569	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4572	ECA1HAK4R7X	E. CAPACITOR 50V 4. 7U	1	
C4576	ECUM1H473KBN	C. CAPACITOR CH 50V 0. 047U	1	
C4585, 86	ECA0JAK101X	E. CAPACITOR 6. 3V 100U	2	
C4587	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C4591	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C4592	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4673	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4674	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C4676	ECA1VAK470X	E. CAPACITOR 35V 47U	1	
C4677	ECA1CAK470X	E. CAPACITOR 16V 47U	1	
C5005	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C5006	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C5007-09	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	3	
C5012, 13	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C5014	ECEA0JKS470	E. CAPACITOR 6. 3V 47U	1	
C5015, 16	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C6001, 02	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C6003	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C6004	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6005	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6006	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C6007	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6008	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C6009	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C6010	VCE0073	SUPER CAPACITOR	1	
C6011	VCEA0JCB221	E. CAPASITOR 6. 3V 220U	1	
C6012	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C6014	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C6016	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6017-19	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	3	
C6020	ECUM1C474KBN	C. CAPACITOR CH 16V 0. 47U	1	
C6022	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6023	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C6026-28	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	3	
C6030	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C6032	VCEA1HCB3R3	E. CAPACITOR 50V 3. 3U	1	
C6034	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C6036	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7003	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C7004	VCEA0JCB101	E. CAPASITOR 6. 3V 100U	1	
C7005	VCEA1HCB100	E. CAPACITOR 50V 10U	1	
C7301, 02	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	2	
C7303	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7304	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7305	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C7306	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C7307-12	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	6	
C7313	ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C7314	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7315	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C7317,18	ECUX1H040CCV	C.CAPACITOR CH 50V 4P	2	
C7320	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7321	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7322	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C7323,24	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	2	
C7325,26	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C7327	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7328	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7329,30	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	2	
C7331	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7332,33	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C7334	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7335	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7336	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7342	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7343	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C7344	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C7345	ECUM1H182KBM	C.CAPACITOR CH 50V 1800P	1	
C7346	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7347	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7348	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C7350	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C7351	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C7352	ECUM1H182KBM	C.CAPACITOR CH 50V 1800P	1	
C7353	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7354	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7355	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C7357	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7358	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C7359	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7367	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7369	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7370	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7371,72	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C7375	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C7601	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7604	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7605	VCEA1CCB101	E.CAPACITOR 16V 100U	1	
C7606	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7607	VCEA1HCB100	E.CAPACITOR 50V 10U	1	
C7608	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7609	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7614	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C7617	ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7701	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7702	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7703	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7704	VCEA1HCB2R2	E.CAPACITOR 50V 2.2U	1	
C7705	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7706,07	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C7709	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C7715-17	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	3	
D0701	MA856	DIODE	1	
D0703	MA77	DIODE	1	
D0707	MA151WK	DIODE	1	
D0709,10	MA77	DIODE	2	
D1001	MA4051-L	DIODE	1	
D1002	MA4120-M	DIODE	1	
D1003-05	1SS254	DIODE	3	
D1006	MA4051-M	DIODE	1	
D1007,08	1SS254	DIODE	2	
D1009	MA4150-M	DIODE	1	
D1010	MA723-VT	DIODE	1	
D2001	1SS254	DIODE	1	
D2508	MA723-VT	DIODE	1	
D3001	1SS283	DIODE	1	
D3003	1SS254	DIODE	1	
D3004	MA723-VT	DIODE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D3005	MA151WA	DIODE	1	
D3012-14	1SS254	DIODE	3	
D3017	1SS254	DIODE	1	
D4002,03	1SS254	DIODE	2	
D4504	1SS254	DIODE	1	
D6001	SIR505S	DIODE	1	
D6003,04	1SS355	DIODE	2	
D7001	MA4180	DIODE	1	
D7301	MA3082-L	DIODE	1	
D7302	MA151K	DIODE	1	
D7303	MA151WK	DIODE	1	
D7304	MA717	DIODE	1	
D7306	MA151K	DIODE	1	
D7601	MA4300-M	DIODE	1	
DP7001	VSL0499	DISPLAY TUBE	1	
FL7301,02	VLF0633	FILTER	2	
IC0701	LA7567NM	IC	1	
IC2501	AN3811NK	IC	1	
IC3001	AN3501NFBP	IC	1	
IC3002	MC14053BF	IC	1	
IC3003	TL8849AP	IC	1	
IC4001	NJM4558M	IC	1	
IC4501	BH7778AK	IC	1	
IC6001	MN675567VRWD	IC	1	
IC6002	PST7043	IC	1	
IC6003	PST7028	IC	1	
IC6004	PNA4611M02VT	IR RECEIVER UNIT	1	
IC6005,06	RPI354N	IC	2	
IC6007	S-29355ADP	IC	1	
IC7001	M35500FP	FIP DRIVE IC	1	
IC7301	MSP3410B-F7	IC	1	
IC7302	PST7043	IC	1	
IC7303	M5238FP	IC	1	
IC7304	HA17431PA	IC	1	
IC7305	MN155402VZDB	IC	1	
IC7306	PST7043	IC	1	
IC7701	LC783WVAP	OSD IC	1	
⚠ IP1001,02	UNH000300A	IC PROTECTOR	2	
JK3001	VJJ0559	RCA PINJACK 6P	1	
K0709	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0719	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
K4002,03	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K4005	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4008	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4502-06	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	5	
K6003	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7315	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K7317	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K7604	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7610	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7614	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L0701	VLQ0163JR39	COIL 0.39UH	1	
L0703	VLQ0163J3R9	COIL 3.9UH	1	
L0706	VLQ0163J5R6	COIL 5.6UH	1	
L0707	VLQ0163J8R2	COIL 8.2UH	1	
L0715	ELJFA151JB	COIL 150UH	1	
L0716	VLQ0163J150	COIL 15UH	1	
L0717	VLQ0163J180	COIL 18UH	1	
L3001	VLQ0599J680	COIL 68UH	1	
L3002	ELESE120JA	INDUCTOR 12UH	1	
L3003	VLQ0599J220	COIL 22UH	1	
L3004	VLQ0599J680	COIL 68UH	1	
L3006	VLQ0599J820	COIL 82UH	1	
L3007	VLQ0599J151	COIL 150UH	1	
L3012	VLQ0599J680	COIL 68UH	1	
L3014-16	VLQ0599J680	COIL 68UH	3	
L3018	VLQ0599J151	COIL 150UH	1	
L4001	VLQEL07F153J	COIL 15000UH	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L4003	ELESN471KA	INDUCTOR 470UH	1	
L4026	ELESE101KA	INDUCTOR 100UH	1	
L5001	VLQ0599J680	COIL 68UH	1	
L5002, 03	VLQ0599J270	COIL 27UH	2	
L5004	VLQ0599J150	COIL 15UH	1	
L6003	VLQ0599J220	COIL 22UH	1	
L7001	VLQ0599J220	COIL 22UH	1	
L7301	ELEXH100JBV	INDUCTOR 10UH	1	
L7302	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L7602	VLQ0599JR27	COIL 0.27UH	1	
L7603-06	VLQ0599J680	COIL 68UH	4	
L7609	VLQ0599J1R0	COIL 1UH	1	
L7610-12	VLQ0599JR27	COIL 0.27UH	3	
L7701	VLQ0599J100	COIL 10UH	1	
L7702, 03	VLQ0599J330	COIL 33UH	2	
LB6001, 02	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
P1001	VJS3917A016W	CONNECTOR (FEMALE) 16P	1	
P2001	VJP3835A012	CONNECTOR (MALE) 12P	1	
P2501	VJP1236T	CONNECTOR (MALE) 9P	1	
P4001	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
P4002	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P4007	VJP3630A014G	CONNECTOR (MALE) 14P	1	
P5001	VJR0777B005W	CONNECTOR (MALE) 5P	1	
P6002	VJS3905	DEW SENSOR CONNECTOR	1	
P6003	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P7001	VJP3630A014G	CONNECTOR (MALE) 14P	1	
PK0701	VJR0816E012W	CONNECTOR (MALE) 12P	1	
PK4501	VJR0777B008W	CONNECTOR (MALE) 8P	1	
PK4502, 03	VJR0777B010W	CONNECTOR (MALE) 10P	2	
PK7301	VJR0777B009W	CONNECTOR (MALE) 9P	1	
PK7302	VJR0777B008W	CONNECTOR (MALE) 8P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP3001, 02	VJS3932A008W	CONNECTOR (FEMALE) 8P	2	
Q0702-04	MSB709-R	TRANSISTOR	3	
Q0705	MSD601-S	TRANSISTOR	1	
Q1001	MSD1328	TRANSISTOR	1	
Q1002	2SD2544OPQA	TRANSISTOR	1	
Q1003	2SD2259	TRANSISTOR	1	
Q1004	2SD2544OPQA	TRANSISTOR	1	
Q1005	2SD1991	TRANSISTOR	1	
Q1008	2SD1996	TRANSISTOR	1	
Q1009	MSD1328	TRANSISTOR	1	
Q3001	2SB709A	TRANSISTOR	1	
Q3002	XN1401	TRANSISTOR-TRANSISTOR	1	
Q3003	2SD601A	TRANSISTOR	1	
Q3008	MSC2295	TRANSISTOR	1	
Q3009	2SD601A	TRANSISTOR	1	
Q4002	MSD602	TRANSISTOR	1	
Q4003	MSB710	TRANSISTOR	1	
Q4004	2SD1992A	TRANSISTOR	1	
Q4005	2SD1149	TRANSISTOR	1	
Q4006	2SD601A	TRANSISTOR	1	
Q4007, 08	MSD601-R	TRANSISTOR	2	
Q4009	MSB710	TRANSISTOR	1	
Q4501	2SD1468	TRANSISTOR	1	
Q4551	2SA1515	TRANSISTOR	1	
Q5001	MSB709	TRANSISTOR	1	
Q5002	MSD601	TRANSISTOR	1	
Q5003	2SA1022	TRANSISTOR	1	
Q5005	XN1501	TRANSISTOR-RESISTOR	1	
Q5006	MSB709	TRANSISTOR	1	
Q5007	MSC2295	TRANSISTOR	1	
Q5008	MSB709	TRANSISTOR	1	
Q5009-13	MSC2295	TRANSISTOR	5	
Q6002	PNB2301MAV	TRANSISTOR	1	
Q6003	PNB2301MBV	TRANSISTOR	1	
Q7301, 02	2SD1996	TRANSISTOR	2	
Q7303, 04	2SC2404	TRANSISTOR	2	
Q7307	2SB709A	TRANSISTOR	1	
Q7310	2SB709A	TRANSISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q7312, 13	2SD1328-S	TRANSISTOR	2	
Q7601	2SB709A	TRANSISTOR	1	
Q7701	MSC2295	TRANSISTOR	1	
Q7702	2SD601A	TRANSISTOR	1	
QR0701, 02	MUN2213	TRANSISTOR-RESISTOR	2	
QR0703	XN1213VT	TRANSISTOR-RESISTOR	1	
QR0704	MUN2213	TRANSISTOR-RESISTOR	1	
QR0705	XN1213VT	TRANSISTOR-RESISTOR	1	
QR0706	MUN2213	TRANSISTOR-RESISTOR	1	
QR1001	MUN2211	TRANSISTOR-RESISTOR	1	
QR2001	MUN2212	TRANSISTOR-RESISTOR	1	
QR3002	MUN2212	TRANSISTOR-RESISTOR	1	
QR3003, 04	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3006	MUN2213	TRANSISTOR-RESISTOR	1	
QR3008-10	MUN2213	TRANSISTOR-RESISTOR	3	
QR3016, 17	MUN2213	TRANSISTOR-RESISTOR	2	
QR3018	UN2215	TRANSISTOR-RESISTOR	1	
QR3019	MUN2213	TRANSISTOR-RESISTOR	1	
QR4002	MUN2211	TRANSISTOR-RESISTOR	1	
QR4003	MUN2213	TRANSISTOR-RESISTOR	1	
QR4004	MUN2111	TRANSISTOR-RESISTOR	1	
QR4651, 52	UN5213	TRANSISTOR-RESISTOR	2	
QR7301	MUN2213	TRANSISTOR-RESISTOR	1	
QR7302	MUN2112	TRANSISTOR-RESISTOR	1	
QR7601-03	MUN2213	TRANSISTOR-RESISTOR	3	
QR7701	MUN2113	TRANSISTOR-RESISTOR	1	
R0702	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0703	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0704	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0710	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R0713	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R0715	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R0719	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R0723	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R0725	ERJ3GEYG222	M.RESISTOR CH 1/16W 2.2K	1	
R0726	ERJ3GEYG241	M.RESISTOR CH 1/16W 240	1	
R0727	ERJ3GEYG112	M.RESISTOR CH 1/16W 1.1K	1	
R0728	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R0729	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0731	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R0732	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R0734	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R0735	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R0736	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R0738	ERJ6GEYJ301	M.RESISTOR CH 1/10W 300	1	
R0739	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0740	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R0741	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R0742	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0743	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R0744	ERJ6GEYJ513	M.RESISTOR CH 1/10W 51K	1	
R0745	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0750	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R0770	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0771	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R0772	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0784	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0786	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0787	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0788	ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R0789	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0790	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R0791	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R0792	ERJ3GEYJ270	M.RESISTOR CH 1/16W 27	1	
R0793	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0794	ERJ6GEYG391	M.RESISTOR CH 1/10W 390	1	
R0795	ERJ6GEYG112	M.RESISTOR CH 1/10W 1.1K	1	
R1002	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R1003	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1004	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R1005	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1006	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R1007, 08	ERDS1TJ471	C.RESISTOR 1/2W 470	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1009	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R2002	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2003	ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R2009	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2014	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2501	ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2504	ERDS1TJ1R5	C.RESISTOR 1/2W 1.5	1	
R2505	ERDS1TJ1R2	C.RESISTOR 1/2W 1.2	1	
R2506, 07	ERDS2TJ330	C.RESISTOR 1/4W 33	2	
R3001	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3002, 03	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	2	
R3004	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3005	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3006	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R3007	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3008	ERJ6GMYG301	M.RESISTOR CH 1/10W 300	1	
R3009	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R3010	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3011	ERJ6GMYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R3012	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3013	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3014	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3015	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3016	ERJ6GMYG221	M.RESISTOR CH 1/10W 220	1	
R3017	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3018	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R3019	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3020	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R3021	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3022	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3025	ERJ6GMYG301	M.RESISTOR CH 1/10W 300	1	
R3026	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3027	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3028	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3029	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3030	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R3032	ERJ6GMYG154	M.RESISTOR CH 1/10W 150K	1	
R3033	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3034	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3036	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3037	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3038	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R3039	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3041	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3042	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3043	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3045	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R3046	ERJ6GMYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3047	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3048	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R3049, 50	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3051	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R3052	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3053	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R3057	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3059	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3060	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3061	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3062	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R3063	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3064	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3065	ERJ6GMYG202	M.RESISTOR CH 1/10W 2K	1	
R3066	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3077	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4001	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4002	ERJ6GMYJ241	M.RESISTOR CH 1/10W 240	1	
R4003	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4004	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R4005	ERJ6GMYJ163	M.RESISTOR CH 1/10W 16K	1	
R4006	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R4007	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R4008	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R4009	ERJ6GMYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R4010	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R4011	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4012	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R4013	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4014	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4015	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R4016	ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R4017	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4019	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R4020	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4023	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4024	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4025	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R4027	ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4028	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R4029	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4030	ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R4031	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4034	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4037	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R4038	ERG2SJ821	M.RESISTOR 2W 820	1	
R4039	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R4040	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R4041	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R4042	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4043	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R4044	ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R4045	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4046	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4049	ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4050, 51	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	2	
R4052	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R4058	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4059	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4503	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R4504	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4508	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4512	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1	
R4513	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4517, 18	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R4519, 20	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4522	ERJ3GEYK225	M.RESISTOR CH 1/16W 2.2M	1	
R4528	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4562	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	
R4563	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4584	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4585	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4586	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4601	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4603, 04	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4605	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1	
R4606	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4607	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4608	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R4621	ERJ6GEYJ363	M.RESISTOR CH 1/10W 36K	1	
R4623	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R4624	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4641, 42	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4663, 64	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4695	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4697	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4698	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4704	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R5003	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5004	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5005	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R5006	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R5007	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R5012	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R5013	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5014	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R5016, 17	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5018	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5019	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R5020	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5021, 22	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	2	
R5023	ERJ6GMYG391	M.RESISTOR CH 1/10W 390	1	
R5025	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5027	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R5028, 29	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5030	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R5031	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6001	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6003	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6004	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6005	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6006	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6007	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6008	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6011	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6012	ERDS2TJ121	C.RESISTOR 1/4W 120	1	
R6013	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R6014	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6015	ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R6016	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R6017	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6018	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6019	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R6021	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6027	ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R6028	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6029	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6032-37	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	6	
R6041	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6042-44	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	3	
R6045	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6047	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6049-51	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	3	
R6052-54	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	3	
R6055	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6056	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6057	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6059	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6060	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R6061	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6062	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6065	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6067-69	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	3	
R6073	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R6086	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6091	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6093	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6095, 96	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R7001	ERDS2TJ5R6	C.RESISTOR 1/4W 5.6	1	
R7002	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R7003	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R7004	ERJ6GMYG243	M.RESISTOR CH 1/10W 24K	1	
R7005	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R7007	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R7012, 13	ERJ6GMYG202	M.RESISTOR CH 1/10W 2K	2	
R7018	ERJ6GMYG363	M.RESISTOR CH 1/10W 36K	1	
R7022	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R7025, 26	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	2	
R7027, 28	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R7029	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R7301	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	1	
R7302	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7303	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7304	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7305, 06	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	2	
R7307	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7308	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7309, 10	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	2	
R7311	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7312	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R7313, 14	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	2	
R7315	ERJ3GEYJ114	M.RESISTOR CH 1/16W 110K	1	
R7316	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7317	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7326	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7327-29	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7330	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7332	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7333	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7334-36	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7337	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7339	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7341-43	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	3	
R7344	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7346	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7347	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7348	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7349, 50	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R7351	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7352-56	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R7357	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7362	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7363	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7364	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R7365	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7366	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7367	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7368	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7376, 77	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R7378	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7379	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7381	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7382	ERJ3GEYG302	M.RESISTOR CH 1/16W 3K	1	
R7383	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7384	ERJ3GEYG302	M.RESISTOR CH 1/16W 3K	1	
R7390	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7601, 02	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R7603	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7605	ERG2SJ331	M.RESISTOR 2W 330	1	
R7606	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7608	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7610	ERG2SJ331	M.RESISTOR 2W 330	1	
R7611	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7612	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7613-15	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	3	
R7701, 02	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	2	
R7703	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7704	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R7705	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7706	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R7707	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
S6001	VES0834	S-TAB SWITCH	1	
S6002	VSS0520	MODE SELECT SWITCH	1	
S7601, 02	VSS0531	AV SELECT SWITCH	2	
T0703	EQV5EC080A	TRANSFORMER	1	
T4001	EQQ7QF025P	TRANSFORMER	1	
T4002	EQQ7QF026P	TRANSFORMER	1	
VR0701	EVNCBAA00B24	V.RESISTOR 20K	1	
VR4501	EVMECSA00BS3	V.RESISTOR 6.8K	1	
VR4509	EVMECSA00B53	V.RESISTOR 5K	1	
VR4550	EVMECSA00B14	V.RESISTOR 10K	1	
VR4651, 52	EVMECSA00B25	V.RESISTOR 200K	2	
X0702	EFCS6R0MS5	CERAMIC FILTER	1	
X0703	EFCS3F02W3B	CERAMIC FILTER	1	
X0704	VLF1402	FILTER	1	
X0706	EFCS4R5MW5A	CERAMIC FILTER	1	
X0717	EFCS4R5MS5	CERAMIC FILTER	1	
X0721	EFOA500KT4V3	CERAMIC OSCILLATOR	1	
X3001	VSX0162	CRYSTAL OSCILLATOR	1	
X3002	VSX0160	CRYSTAL OSCILLATOR	1	
X6001	VSX0830	CRYSTAL OSCILLATOR	1	
X6002	VSX0660	CRYSTAL OSCILLATOR	1	
X7001	VSX0339	CERAMIC OSCILLATOR	1	
X7302	VSX0877	CRYSTAL OSCILLATOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
X7303	EF0EC4004A4	CERAMIC OSCILLATOR	1	
ZA3001	VSC4680	SHIELD COVER	1	
ZB7001	VXQ0648	FIP HOLDER	1	
		MISCELLANEOUS		
⚠	ENG47254G	TUNER	1	
	VMT0784	SPACER	1	
	VSC4576	NICAM SHIELD COVER (TOP)	1	FOR MSD C.B.A.
	VSC3553	SHIELD COVER (MAIN)	1	FOR MSD C.B.A.
	VSC3555	SHIELD COVER (BOTTOM)	1	FOR MSD C.B.A.
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C.B.A.
■	VEP06C05K	MAIN C.B.A.		(RTL)
				NV-SD570AM/EU
C0701, 02	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
C0704	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0709	ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	1	
C0710	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C0711	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C0715	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C0716	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C0717	ECUM1H330JRV	C.CAPACITOR CH 50V 33P	1	
C0719	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C0724	ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	1	
C0730	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C0732, 33	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C0737	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C0738	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C0740	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C0741	ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C0742	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0743	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0744	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C1001	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1002	VCEA0JCB220	E.CAPASITOR 6.3V 22U	1	
C1003	VCEA1ECB470	E.CAPACITOR 25V 47U	1	
C1004	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C1005	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1006	VCEA1CEC470	E.CAPACITOR 16V 47U	1	
C1007	VCEA1CEC101	E.CAPACITOR 16V 100U	1	
C1008	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1009	VCEA1EJC470	E.CAPACITOR 25V 47U	1	
C1010	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C1011	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1012	VCEA0JBS470	E.CAPASITOR 6.3V 47U	1	
C1013	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2009	ECUM1E683KBN	C.CAPACITOR CH 25V 0.068U	1	
C2010	ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2011	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2012	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2013	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2014	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C2015	VCEA1HCB4R7	E.CAPACITOR 50V 4.7U	1	
C2016	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C2017	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C2018	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2021	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2501	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2502	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	1	
C2504-06	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	3	
C2507	ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2508	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C2509	VCEA1ECB470	E.CAPACITOR 25V 47U	1	
C2514, 15	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	2	
C3001	ECUX1H561JCN	C.CAPACITOR CH 50V 560P	1	
C3002	ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3003	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3004	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3005	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3006	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3007	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3008	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3009	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3010	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3011	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C3012	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3013	VCEA1HCB4R7	E.CAPACITOR 50V 4.7U	1	
C3017, 18	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019	VCEA0JCB220	E.CAPASITOR 6.3V 22U	1	
C3020	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3021	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3022	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3023	VCEA1CCB100	E.CAPACITOR 16V 10U	1	
C3024	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3025	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3026	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3027	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3028	VCEA1CCB100	E.CAPACITOR 16V 10U	1	
C3029	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3030	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3031	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3032	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3033	ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3034	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3035	ECUM1H040CCN	C.CAPACITOR CH 50V 4P	1	
C3036	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3037	VCEA0JEC471	E.CAPASITOR 6.3V 470U	1	
C3040, 41	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	2	
C3042, 43	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C3044	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3045	VCEA0JCB470	E.CAPASITOR 6.3V 47U	1	
C3047	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3048	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3049-51	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	3	
C3052	ECUM1C334KBN	C.CAPACITOR CH 16V 0.33U	1	
C3053	ECUM1E223KBN	C.CAPACITOR CH 25V 0.022U	1	
C3054	VCEA0JCB220	E.CAPASITOR 6.3V 22U	1	
C3055	VCEA1HCB2R2	E.CAPACITOR 50V 2.2U	1	
C3056	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3057	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C3058	ECUM1E223KBN	C.CAPACITOR CH 25V 0.022U	1	
C3059, 60	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3063	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3064	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C3065	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3066	ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C3067	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3068	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3069	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3070	ECUM1C334KBN	C.CAPACITOR CH 16V 0.33U	1	
C3071	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3072	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C3073	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3074	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3076	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3078	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3080	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3081	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3089, 90	VCEA0JCB330	E.CAPASITOR 6.3V 33U	2	
C3092	VCEA1HCB2R2	E.CAPACITOR 50V 2.2U	1	
C3093	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C4001	ECUM1H182JCN	C.CAPACITOR CH 50V 1800P	1	
C4002	VCEA0JCB220	E.CAPASITOR 6.3V 22U	1	
C4003	VCEA1HCB010	E.CAPACITOR 50V 1U	1	
C4004	ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4005	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4006	VCEA1HCB4R7	E.CAPACITOR 50V 4.7U	1	
C4007	ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4008	VCEA1CCB100	E.CAPACITOR 16V 10U	1	
C4009	VCEA1HCB010	E.CAPACITOR 50V 1U	1	
C4010	VCEA0JCB470	E.CAPASITOR 6.3V 47U	1	
C4011	VCEA0JCB220	E.CAPASITOR 6.3V 22U	1	
C4012	VCEA1HCB010	E.CAPACITOR 50V 1U	1	
C4013	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4015	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4016	ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C4017	ECUX1E273KBN	C.CAPACITOR CH 25V 0.027U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4018	ECUM1E223KBN	C.CAPACITOR CH 25V 0.022U	1	
C4019	ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4020	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C4021	ECQV1H154JM	P.CAPACITOR 50V 0.15U	1	
C4022	ECUM1H272KBN	C.CAPACITOR CH 50V 2700P	1	
C4023	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C4024	ECQB1H333KF	P.CAPACITOR 50V 0.033U	1	
C4025	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4026	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4027,28	VCEA0JCB470	E.CAPASITOR 6.3V 47U	2	
C4029	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C4078	VCEA0JCB470	E.CAPASITOR 6.3V 47U	1	
C6001,02	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6004	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6005	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6006	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6007	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6008	ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C6009	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010	VCE0073	SUPER CAPACITOR	1	
C6011	VCEA0JCB221	E.CAPASITOR 6.3V 220U	1	
C6012	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6014	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C6016	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6017-19	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	3	
C6020	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C6022	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6023	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C6026-28	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	3	
C6030	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6032	VCEA1HCB3R3	E.CAPACITOR 50V 3.3U	1	
C6034	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6036	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7003	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7004	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7005	VCEA1HCB100	E.CAPACITOR 50V 10U	1	
C7601	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7602,03	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7604	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7605	VCEA1CCB101	E.CAPACITOR 16V 100U	1	
C7606	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7607	VCEA1HCB100	E.CAPACITOR 50V 10U	1	
C7608	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7609	VCEA0JCB101	E.CAPASITOR 6.3V 100U	1	
C7614	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C7701	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7702	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7703	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7704	VCEA1HCB2R2	E.CAPACITOR 50V 2.2U	1	
C7705	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7706,07	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C7709	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C7715-17	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	3	
D0701	MA856	DIODE	1	
D0703	MA77	DIODE	1	
D0707	MA151WK	DIODE	1	
D0709,10	MA77	DIODE	2	
D1001	MA4051-L	DIODE	1	
D1002	MA4120-M	DIODE	1	
D1003-05	1SS254	DIODE	3	
D1006	MA4051-M	DIODE	1	
D1007,08	1SS254	DIODE	2	
D1009	MA4150-M	DIODE	1	
D1010	MA723-VT	DIODE	1	
D2001	1SS254	DIODE	1	
D2508	MA723-VT	DIODE	1	
D3001	1SS283	DIODE	1	
D3003	1SS254	DIODE	1	
D3004	MA723-VT	DIODE	1	
D3005	MA151WA	DIODE	1	
D3007	MA4056-M	DIODE	1	
D3012,13	1SS254	DIODE	2	
D3017	1SS254	DIODE	1	
D4002-04	1SS254	DIODE	3	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D6001	SIR505S	DIODE	1	
D6003,04	1SS355	DIODE	2	
D7001	MA4180	DIODE	1	
D7601	MA4300-M	DIODE	1	
DP7001	VSL0499	DISPLAY TUBE	1	
IC0701	LA7567NM	IC	1	
IC2501	AN3811NK	IC	1	
IC3001	AN3501NFBP	IC	1	
IC3002	MC14053BF	IC	1	
IC3003	TL8849AP	IC	1	
IC6001	MN675567VRWD	IC	1	
IC6002	PST7043	IC	1	
IC6003	PST7028	IC	1	
IC6004	PNA4611M02VT	IR RECEIVER UNIT	1	
IC6005,06	RPI354N	IC	2	
IC6007	S-29255ADP	IC	1	
IC7001	M35500FP	FIP DRIVE IC	1	
IC7701	LC783WVAP	OSD IC	1	
⚠ IP1001,02	UNH000300A	IC PROTECTOR	2	
JK3001	VJJ0558	RCA PINJACK 4P	1	
K0709	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0719	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
K3006	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4002,03	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K4009-11	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	3	
K6003	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7604	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7610	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7614	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L0701	VLQ0163JR39	COIL 0.39UH	1	
L0703	VLQ0163J3R9	COIL 3.9UH	1	
L0706	VLQ0163J5R6	COIL 5.6UH	1	
L0707	VLQ0163J8R2	COIL 8.2UH	1	
L0715	ELJFA151JB	COIL 150UH	1	
L0716	VLQ0163J150	COIL 15UH	1	
L0717	VLQ0163J180	COIL 18UH	1	
L2501	VLQ0599J101	COIL 100UH	1	
L3001	VLQ0599J680	COIL 68UH	1	
L3002	ELESE120JA	INDUCTOR 12UH	1	
L3003	VLQ0599J220	COIL 22UH	1	
L3004	VLQ0599J680	COIL 68UH	1	
L3006	VLQ0599J820	COIL 82UH	1	
L3007	VLQ0599J151	COIL 150UH	1	
L3012	VLQ0599J680	COIL 68UH	1	
L3014-16	VLQ0599J680	COIL 68UH	3	
L3018	VLQ0599J151	COIL 150UH	1	
L4001	VLQEL07F153J	COIL 15000UH	1	
L4003	ELESN471KA	INDUCTOR 470UH	1	
L4026	ELESE101KA	INDUCTOR 100UH	1	
L6003	VLQ0599J220	COIL 22UH	1	
L7001	VLQ0599J220	COIL 22UH	1	
L7602-06	VLQ0599J680	COIL 68UH	5	
L7701	VLQ0599J100	COIL 10UH	1	
L7702,03	VLQ0599J330	COIL 33UH	2	
LB6001,02	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
P1001	VJS3917A016W	CONNECTOR (FEMALE) 16P	1	
P2001	VJP3835A012	CONNECTOR (MALE) 12P	1	
P2502	VJS3537A009G	CONNECTOR (FEMALE) 9P	1	
P4001	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
P4002	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P4007	VJP3630A014G	CONNECTOR (MALE) 14P	1	
P6003	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P7001	VJP3630A014G	CONNECTOR (MALE) 14P	1	
PK0701	VJR0816E012W	CONNECTOR (MALE) 12P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
PP3001.02	VJS3932A008W	CONNECTOR (FEMALE) 8P	2	
Q0702-04	MSB709-R	TRANSISTOR	3	
Q0705	MSD601-S	TRANSISTOR	1	
Q1001	MSD1328	TRANSISTOR	1	
Q1002	2SD25440PQA	TRANSISTOR	1	
Q1003	2SD2259	TRANSISTOR	1	
Q1004	2SD25440PQA	TRANSISTOR	1	
Q1005	2SD1991	TRANSISTOR	1	
Q1008	2SD1996	TRANSISTOR	1	
Q1009	MSD1328	TRANSISTOR	1	
Q3001	2SB709A	TRANSISTOR	1	
Q3008	MSC2295	TRANSISTOR	1	
Q3009	2SD601A	TRANSISTOR	1	
Q4001	2SD601A	TRANSISTOR	1	
Q4002	MSD602	TRANSISTOR	1	
Q4003	MSB710	TRANSISTOR	1	
Q4004	2SD1992A	TRANSISTOR	1	
Q4005	2SD1149	TRANSISTOR	1	
Q4006	2SD601A	TRANSISTOR	1	
Q4009	MSB710	TRANSISTOR	1	
Q6002	PNB2301MAV	TRANSISTOR	1	
Q6003	PNB2301MBV	TRANSISTOR	1	
Q7601	2SB709A	TRANSISTOR	1	
Q7701	MSC2295	TRANSISTOR	1	
Q7702	2SD601A	TRANSISTOR	1	
QR0701,02	MUN2213	TRANSISTOR-RESISTOR	2	
QR0703	XN1213VT	TRANSISTOR-RESISTOR	1	
QR0704	MUN2213	TRANSISTOR-RESISTOR	1	
QR0705	XN1213VT	TRANSISTOR-RESISTOR	1	
QR0706	MUN2213	TRANSISTOR-RESISTOR	1	
QR1001	MUN2211	TRANSISTOR-RESISTOR	1	
QR2001	MUN2212	TRANSISTOR-RESISTOR	1	
QR3002	MUN2212	TRANSISTOR-RESISTOR	1	
QR3003,04	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3006	MUN2213	TRANSISTOR-RESISTOR	1	
QR3009	MUN2213	TRANSISTOR-RESISTOR	1	
QR3016,17	MUN2213	TRANSISTOR-RESISTOR	2	
QR4002	MUN2211	TRANSISTOR-RESISTOR	1	
QR4003	MUN2213	TRANSISTOR-RESISTOR	1	
QR4004	MUN2111	TRANSISTOR-RESISTOR	1	
QR7601-03	MUN2213	TRANSISTOR-RESISTOR	3	
QR7701	MUN2113	TRANSISTOR-RESISTOR	1	
R0702	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0703	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0704	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0710	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R0713	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R0715	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R0719	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R0723	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R0725	ERJ3GEYG222	M.RESISTOR CH 1/16W 2.2K	1	
R0726	ERJ3GEYG241	M.RESISTOR CH 1/16W 240	1	
R0727	ERJ3GEYG112	M.RESISTOR CH 1/16W 1.1K	1	
R0728	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R0729	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0731	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R0732	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R0734	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R0735	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R0736	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R0738	ERJ6GEYJ301	M.RESISTOR CH 1/10W 300	1	
R0739	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0740	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R0741	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R0742	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0743	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R0744	ERJ6GEYJ513	M.RESISTOR CH 1/10W 51K	1	
R0745	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0750	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R0770	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0771	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R0772	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0784	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0786	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0787	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0788	ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R0789	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0790	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R0791	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R0792	ERJ3GEYJ270	M.RESISTOR CH 1/16W 27	1	
R0793	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0794	ERJ6GEYG391	M.RESISTOR CH 1/10W 390	1	
R0795	ERJ6GEYG112	M.RESISTOR CH 1/10W 1.1K	1	
R1002	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R1003	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1004	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R1005	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1006	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R1007,08	ERDS1TJ471	C.RESISTOR 1/2W 470	2	
R1009	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R2002	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2003	ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R2009	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2014	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2501	ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2503	ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R2504	ERDS1TJ1R5	C.RESISTOR 1/2W 1.5	1	
R2505	ERDS1TJ1R2	C.RESISTOR 1/2W 1.2	1	
R2506,07	ERDS2TJ330	C.RESISTOR 1/4W 33	2	
R3001	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3002,03	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	2	
R3004	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3005	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3006	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R3007	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3008	ERJ6GMYG301	M.RESISTOR CH 1/10W 300	1	
R3009	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R3010	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3011	ERJ6GMYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R3012	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3013	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3014	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3015	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3016	ERJ6GMYG221	M.RESISTOR CH 1/10W 220	1	
R3017	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3018	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R3019	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3020	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R3021	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3022	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3023	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3025	ERJ6GMYG301	M.RESISTOR CH 1/10W 300	1	
R3026	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3027	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3028	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3030	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R3032	ERJ6GMYG154	M.RESISTOR CH 1/10W 150K	1	
R3034	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3036	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3037	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3041	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3042	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3043	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3045	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R3046	ERJ6GMYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3047	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3048	ERJ6GMYG241	M.RESISTOR CH 1/10W 240	1	
R3049,50	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3051	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R3052	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3053	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R3057	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3059	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3060	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3061	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3077	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4001	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4002	ERJ6GMYJ241	M. RESISTOR CH 1/10W 240	1	
R4003	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4004	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R4005	ERJ6GMYJ163	M. RESISTOR CH 1/10W 16K	1	
R4006	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R4007	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4008	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4009	ERJ6GMYJ225	M. RESISTOR CH 1/10W 2.2M	1	
R4010	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R4011	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4012	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R4013	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4014	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R4015	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4016	ERJ6GMYG752	M. RESISTOR CH 1/10W 7.5K	1	
R4017	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R4018	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4019	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R4020	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4021	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4022	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4023	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4024	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R4025	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4027	ERJ6GMYJ474	M. RESISTOR CH 1/10W 470K	1	
R4028	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4029	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4045	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4046	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4049	ERJ6GMYJ474	M. RESISTOR CH 1/10W 470K	1	
R4050	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R4052	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R4058	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6001	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R6002	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6003	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6004	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6005	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6007	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6008	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6011	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R6012	ERDS2TJ121	C. RESISTOR 1/4W 120	1	
R6014	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6016	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R6017	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6018	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6021	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R6024	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6027	ERJ6GMYJ181	M. RESISTOR CH 1/10W 180	1	
R6028	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6029	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R6032-37	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	6	
R6041	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R6042-44	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	3	
R6045	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6047	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6049-51	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	3	
R6052-54	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	3	
R6055	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R6056	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6057	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6059	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6060	ERDS2TJ181	C. RESISTOR 1/4W 180	1	
R6061	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6062	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6065	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6067-69	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	3	
R6073	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R6086	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6091	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R6093	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6095, 96	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7001	ERDS2TJ5R6	C. RESISTOR 1/4W 5.6	1	
R7002	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R7003	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7004	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R7005	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7007	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7012, 13	ERJ6GMYG202	M. RESISTOR CH 1/10W 2K	2	
R7018	ERJ6GMYG363	M. RESISTOR CH 1/10W 36K	1	
R7022	ERJ6GMYG182	M. RESISTOR CH 1/10W 1.8K	1	
R7025, 26	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	2	
R7027, 28	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7029	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7601, 02	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R7603	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7605	ERG2SJ331	M. RESISTOR 2W 330	1	
R7606	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R7608	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R7610	ERG2SJ331	M. RESISTOR 2W 330	1	
R7611	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7612	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7613-15	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	3	
R7701, 02	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	2	
R7703	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7704	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R7705	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R7706	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7707	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
S6001	VES0834	S-TAB SWITCH	1	
S6002	VSS0520	MODE SELECT SWITCH	1	
S7601, 02	VSS0531	AV SELECT SWITCH	2	
T0703	EQV5EC080A	TRANSFORMER	1	
T4001	EQQ7QF025P	TRANSFORMER	1	
T4002	EQQ7QF026P	TRANSFORMER	1	
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
X0701	VLF1414	COIL	1	
X0702	EFCS6R0MS5	CERAMIC FILTER	1	
X0703	EFCS3F02W3B	CERAMIC FILTER	1	
X0704	VLF1402	FILTER	1	
X0706	EFCS4R5MW5A	CERAMIC FILTER	1	
X0717	EFCS4R5MS5	CERAMIC FILTER	1	
X0721	EFOA500KT4V3	CERAMIC OSCILLATOR	1	
X3001	VSX0162	CRYSTAL OSCILLATOR	1	
X3002	VSX0160	CRYSTAL OSCILLATOR	1	
X6001	VSX0830	CRYSTAL OSCILLATOR	1	
X6002	VSX0660	CRYSTAL OSCILLATOR	1	
X7001	VSX0339	CERAMIC OSCILLATOR	1	
ZB7001	VXQ0648	FIP HOLDER	1	
		MISCELLANEOUS		
⚠	ENG47254G	TUNER	1	
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C. B. A.
■	VEP05353A	HEAD AMP C. B. A.		(RTL)
				NV-HD670BD
C501	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C502	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C503	VCEA0JCB470	E. CAPASITOR 6.3V 47U	1	
C504-07	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	4	
C508	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C510	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C521	VCEA0JCB221	E. CAPASITOR 6.3V 220U	1	
C522, 23	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C524	VCEA1HCB3R3	E. CAPACITOR 50V 3.3U	1	
C526, 27	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C530	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C541, 42	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C543	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
IC501	AN3369SB	IC	1	
L501	VLQ0599J680	COIL 68UH	1	
L521	VLQ0599J680	COIL 68UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
LB541-44	VLP0321A601	COIL	4	
P501	VJS3968B012T	CONNECTOR (FEMALE) 12P	1	
P502, 03	VJP3932B008T	CONNECTOR (MALE) 8P	2	
R501	ERJ6GMYJ301	M.RESISTOR CH 1/10W 300	1	
R502	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R521	ERJ6RED120	M.RESISTOR CH 1/10W 12	1	
R522	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R541	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R543	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
ZA501	VSC4628	H.A SHIELD COVER (TOP)	1	
■	VEP05353B	HEAD AMP C.B.A.		(RTL)
				NV-SD570AM/EU
C501	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C502	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C503	VCEA0JCB470	E.CAPASITOR 6.3V 47U	1	
C504-07	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	4	
C508	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C510	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C541, 42	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C543	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
IC501	AN3368SB	IC	1	
L501	VLQ0599J680	COIL 68UH	1	
LB541-44	VLP0321A601	COIL	4	
P502, 03	VJP3932B008T	CONNECTOR (MALE) 8P	2	
P504	VJS3967B008	CONNECTOR (FEMALE) 8P	1	
R501	ERJ6GMYJ301	M.RESISTOR CH 1/10W 300	1	
R502	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R541	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R543	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
ZA501	VSC4628	H.A SHIELD COVER (TOP)	1	
■	VEP06B92B	FRONT C.B.A.		(RTL)
				NV-HD670BD
C6501	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
C6502, 03	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
D6505	1SS254	DIODE	1	
JK6501	VJJ0416	JACK	1	
K6502	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6507	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6510	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6512, 13	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
P6501	VJS3630B014B	CONNECTOR (FEMALE) 14P	1	
R6501	ERJ6GEYG750	M.RESISTOR CH 1/10W 75	1	
R6502, 03	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R6504, 05	ERJ6GEYG114	M.RESISTOR CH 1/10W 110K	2	
R6517, 18	ERJ6GEYG474	M.RESISTOR CH 1/10W 470K	2	
S6501-04	EVQ11G07K	SWITCH	4	
S6506	ESD170306	SWITCH	1	
ZB6501	VGU4537	SLIDE KNOB	1	
■	VEP06B92C	FRONT C.B.A.		(RTL)
				NV-SD570AM/EU
C6501	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
C6502	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D6505	1SS254	DIODE	1	
JK6501	VJJ0417	JACK	1	
K6502	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6507	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6510	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K6512, 13	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
P6501	VJS3630B014B	CONNECTOR (FEMALE) 14P	1	
R6501	ERJ6GEYG750	M.RESISTOR CH 1/10W 75	1	
R6502	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6504	ERJ6GEYJ114	M.RESISTOR CH 1/10W 110K	1	
R6505	ERJ6GEYG114	M.RESISTOR CH 1/10W 110K	1	
R6517, 18	ERJ6GEYG474	M.RESISTOR CH 1/10W 470K	2	
S6501-04	EVQ11G07K	SWITCH	4	
S6506	ESD170306	SWITCH	1	
ZB6501	VGU4537	SLIDE KNOB	1	
⚠ ■	VEP01768J	POWER C.B.A.		(RTL)
⚠ C1101	VCK0286B331	CERAMIC CAPACITOR	1	
C1102	ECQV1H104B46	P.CAPACITOR 50V 0.1U	1	
⚠ C1104	VCK0286B331	CERAMIC CAPACITOR	1	
⚠ C1107	VCK0286E102	CERAMIC CAPACITOR	1	
⚠ C1110	ECQU2A104MV	P.CAPACITOR 250V 0.1U	1	
⚠ C1111	ECQU2A104MN	P.CAPACITOR 250V 0.1U	1	
C1112	ECEC2GG680	E.CAPACITOR 400V 68U	1	
C1113	ECKD2H103PU	C.CAPACITOR 500V 0.01U	1	
C1114	ECCZ3A101KGE	C.CAPACITOR 1KV 100P	1	
C1115, 16	ECA1VGE470X	E.CAPACITOR 35V 47U	2	
C1117	ECQV1H104B46	P.CAPACITOR 50V 0.1U	1	
C1118	ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1120	ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C1121	ECKF1H391KB	C.CAPACITOR 50V 390P	1	
C1131	EEUFA1E681	E.CAPASITOR 25V 680U	1	
C1132	ECEA1CGE331	E.CAPACITOR 16V 330U	1	
C1133	ECKD2H221KB	C.CAPACITOR 100V 220P	1	
C1134	EEUFA1A122	E.CAPASITOR 10V 1200U	1	
C1135	ECEA1AGE331	E.CAPACITOR 10V 330U	1	
C1136	ECKD2H221KB	C.CAPACITOR 100V 220P	1	
C1137	ECEA1HGE470	E.CAPACITOR 50V 47U	1	
C1138	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1139	ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1140	ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C1141	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1143	ECA1AFZ331	E.CAPACITOR 10V 330U	1	
C1147	ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1148	ECQV1H104B46	P.CAPACITOR 50V 0.1U	1	
C1150	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
⚠ D1102	S1WBA60S	DIODE	1	
D1103	AP01C	DIODE	1	
D1104	MA185	DIODE	1	
D1106	RK36	DIODE	1	
D1121	RN2ZLF-C4	DIODE	1	
D1123, 24	ERA22-04	DIODE	2	
D1125	11EQS04	DIODE	1	
D1127	1SS254	DIODE	1	
⚠ F1101	XBA2C16TB0	FUSE	1	
IC1101	TDA4605-3	IC	1	
IC1102	HA17431PA	IC	1	
⚠ IP1101	VSF0015A10	IC PROTECTOR	1	
⚠ L1107	ELF18D290A	LINE FILTER	1	
⚠ L1108	ELF18D221F	LINE FILTER	1	
L1121	VLQ0655K220	COIL 22UH	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L1122	VLQ0798K220	COIL 22UH	1	
L1123, 24	ELESE101KA	INDUCTOR 100UH	2	
LB1102	VLP0056	COIL	1	
LB1104	EXCELSR35	BEAD CORE	1	
LB1106	EXCELSR35	BEAD CORE	1	
LB1110	VLP0056	COIL	1	
⚠ P1101	VJS3306	AC INLET	1	
P1103	VJP3917A016G	CONNECTOR (MALE) 16P	1	
Q1101	STP3N60FI-M	TRANSISTOR	1	
Q1102	2SD1991A	TRANSISTOR	1	
⚠ Q1111	MOC8104T	TRANSISTOR	1	
QR1101	UN6114	TRANSISTOR-RESISTOR	1	
R1101	ERDS2FJ822	C. RESISTOR 1/4W 8. 2K	1	
R1102, 03	ERG1SJ273	M. RESISTOR 1W 27K	2	
R1106	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
R1107	ERDS2FJ184	C. RESISTOR 1/4W 180K	1	
R1108	ERDS2TJ155	C. RESISTOR 1/4W 1. 5M	1	
R1109	ERDS2FJ221	C. RESISTOR 1/4W 220	1	
R1110	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R1111	ERDS2FJ222	C. RESISTOR 1/4W 2. 2K	1	
R1112	ERDS2FJ304	C. RESISTOR 1/4W 300K	1	
R1113	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1114	ERX12SJR51	M. RESISTOR 1/2W 0. 51	1	
R1115	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R1116	ERDS2FJ220	C. RESISTOR 1/4W 22	1	
R1117	ERDS2FJ472	C. RESISTOR 1/4W 4. 7K	1	
R1118	ERG1SJ100	M. RESISTOR 1W 10	1	
R1119	ERDS2TJ273	C. RESISTOR 1/4W 27K	1	
R1120	EROS2CKG4301	M. RESISTOR 1/4W 4. 3K	1	
R1121	EROS2CHF4701	M. RESISTOR 1/4W 4. 7K	1	
⚠ R1122	ERC12AGM334	S. RESISTOR 1/2W 330K	1	
R1124	ERDS2FJ822	C. RESISTOR 1/4W 8. 2K	1	
R1125	ERDS2TJ561	C. RESISTOR 1/4W 560	1	
R1128	ERDS2FJ332	C. RESISTOR 1/4W 3. 3K	1	
R1129	ERDS2FJ123	C. RESISTOR 1/4W 12K	1	
R1133	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1134	ERDS2FJ822	C. RESISTOR 1/4W 8. 2K	1	
R1135	ERDS2FJ274	C. RESISTOR 1/4W 270K	1	
R1136-38	ERDS2FJ822	C. RESISTOR 1/4W 8. 2K	3	
R1139	ERDS2TJ475	C. RESISTOR 1/4W 4. 7M	1	
⚠ T1101	ETE28K110AZ	TRANSFORMER	1	
ZA1101	VSC4205	SHIELD COVER	1	
ZA1102	VMP5133	INLET ANGLE	1	
ZA1103	VHD0418	SCREW	1	
⚠ ZA1104, 05	EYF52BC	FUSE HOLDER	2	
⚠ ZB1101	VMZ2378	BARRIER	1	
■	VEP07947A	JOG C. B. A.		(RTL)
J7501	VSQ0817	SWITCH	1	
K7511, 12	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
K7529	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
P7502	VJS3630B014B	CONNECTOR (FEMALE) 14P	1	
R7501	ERJ6GEYG912	M. RESISTOR CH 1/10W 9. 1K	1	
R7502	ERJ6GEYG242	M. RESISTOR CH 1/10W 2. 4K	1	
R7503	ERJ6GEYG362	M. RESISTOR CH 1/10W 3. 6K	1	
R7505	ERJ6GEYG512	M. RESISTOR CH 1/10W 5. 1K	1	
R7506	ERJ6GEYG242	M. RESISTOR CH 1/10W 2. 4K	1	
R7508	ERJ6GEYG362	M. RESISTOR CH 1/10W 3. 6K	1	
R7510	ERJ6GEYG182	M. RESISTOR CH 1/10W 1. 8K	1	
R7512-15	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R7516-19	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	4	
R7520, 21	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7522, 23	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
S7501-08	EVQ11L07B	SWITCH	8	
■	----------	CYLINDER STATOR C. B. A.		NV-SD570AM/EU
		MISCELLANEOUS		
	HW-300A-CF	HALL IC	1	
	VJS3537B009G	CONNECTOR (FEMALE) 9P	1	
■	----------	RT CONNECTION C. B. A. 570AM/E		NV-SD570AM/EU
		MISCELLANEOUS		
	VJP3578	CONNECTOR (MALE) 8P	1	

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
SHUGOU (MAIN, HEAD AMP)	FUAI01–0411A
POWER	FUAI00–01768
FRONT	FUAI00–06B92
FM AUDIO PACK (HD670BD)	FUAI00–04664
S-VHS PLAYBACK PACK (HD670BD)	FUAI00–03A03
MSD PACK (HD670BD)	FUAI00–07787
TV DEMODULATOR PACK (HD670BD)	FUAI00–07946
TV DEMODULATOR PACK (SD570AM/EU)	FUAI00–07984
JOG SHUTTLE	FUAI00–07947

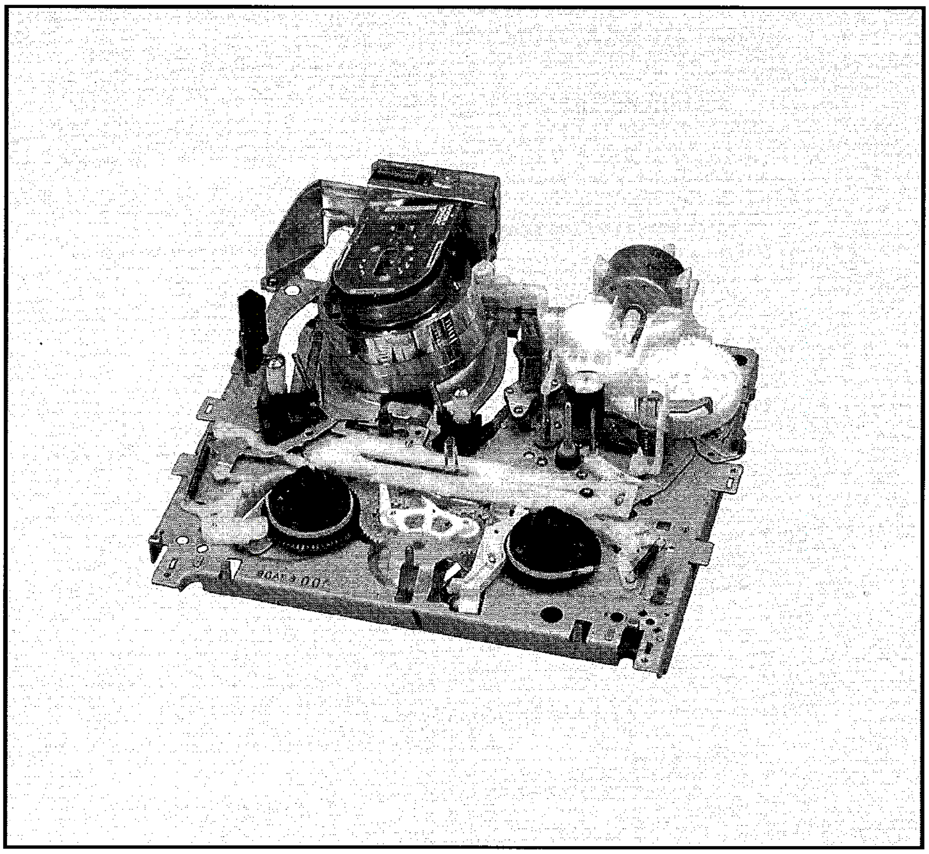
ORDER NO. VRD9612M129

Service Manual

Video Cassette Recorder

Panasonic VHS

Z-MECHANISM CHASSIS



INTRODUCTION

The Z-Mechanism chassis are built in several Panasonic VHS Video Cassette Recorders from NV-SD series in 1996.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

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   8-20. FF/REW time 45

1. OUTLINE OF Z MECHANISM

1-1. The tape transport path

(1) Mechanism Chassis

Aluminium Chassis has been changed to sheet metal (Thickness: 1.2 mm).

(2) Capstan position (Cassette-in method/Capstan-in method)

The Tape does not touch the Cassette tape so that the rationalization has been promoted such as Reel gear pinch up/down mechanism has been deleted.

(3) Deletion of P1 post

FE Head has been installed Limiter so that P1 post has been deleted.

(4) A/C Head base combined with P4 post

A/C Head has been combined with P4 post on the same base.

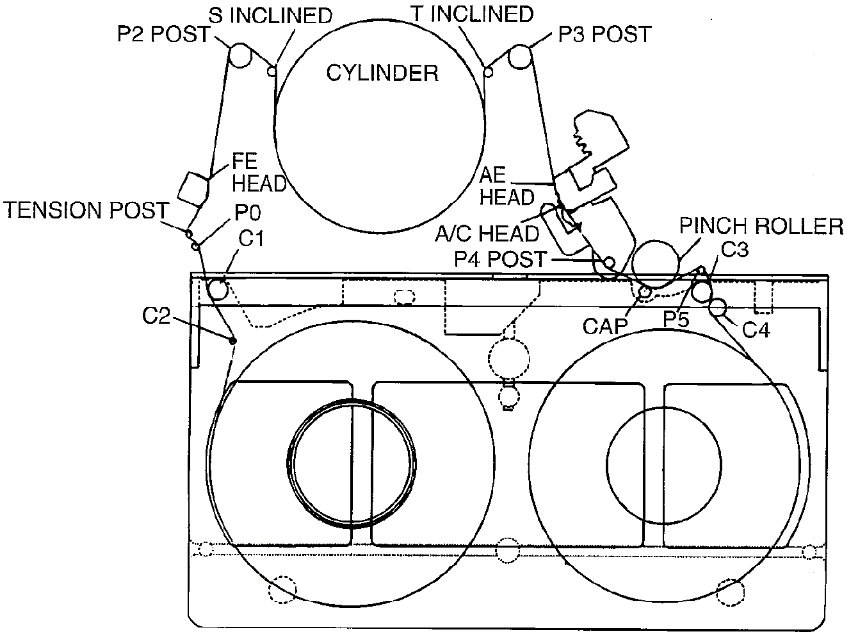
(5) Change of A/C head base type

The change of the angle winding the tape on A/C head has been reduced by the construction of A/C head base has been changed from the revolution type to slide base type.

(6) Improvement of P5 post

P5 post operation has been changed by non-adjustable of the Height and the Tilt adjustment so that the specification has been improved.

Z Mechanism tape transport path in REV mode


S INCLINED
T INCLINED
P2 POST
P3 POST
CYLINDER
FE HEAD
AE HEAD
TENSION POST
P0
C1
A/C HEAD
PINCH ROLLER
C3
P4 POST
C2
CAP
P5
C4

1-2. Cassette holder unit

(1) Cassette-in operation

The Rack drive arm drives Main Cam gear by inserting the cassette tape. Consequently, Position switch detects the cassette-in mode so that Loading motor drives. The mode goes to the Stop mode from the Cassette-in through the Loading mode.

① The parts quantity reduction of Cassette holder unit.
(Z Mechanism: 21 pieces, K Mechanism: 36 pieces)

a. Release lever has been installed in Right Side Plate.
b. Cassette guide has been installed in Front Panel unit.
c. Safety lever spring is made by the resin.
d. Opener lever has been changed into the single opener type.
e. One side of Side Plate unit is hung on Chassis in order to fix it.

② Improvement of the cassette insertion
(The force of the cassette insertion Z Mechanism: Approximately 400gm.,
K Mechanism: Approximately 600gm.)

The tooth pitch of Worm gear which has been extended against the previous model, is located on the Motor so that Worm gear can be reversed. Consequently, the Motor rotates before the insertion spring (the combined spring) is working when the cassette tape is inserted, so that the repelled force of the insertion spring has been reduced as differing from the present model.

③ Small-sized Cassette holder unit (Thinned unit)

a. The Wiper arm method which has been adopted, assigned Wiper arm between Cassette Holder Plate and Side Plate so that the small-sized of the width has been realized.
b. To prevent the increment of parts quantity such as Safety lever is used for Pre-open mechanism shown in the present model, and the small-sized unit has been realized by inclining one portion of the L groove in Side Plate.
c. The part of driving change-over is located in the nearest to the center of Reel so that the depth size is compacter.

1-3. Reel brake

(1) Supply Reel Brake is used for Tension Regulator which is composed of the conventional Main brake and the soft brake function.

(2) Take-up Reel Brake is used as Band Brake unit in order to correspond with Supply Reel Brake.

※ Tension Regulator performance:
This is composed of Tension regulator and brake. The tape always is given the tension against the advance direction by Tension band.

(3) Construction of Supply reel tension regulator
Comparison of the construction with the conventional model

	Z Mechanism	K Mechanism
Tension Arm Shaft Bearing construction	Resin	Tension arm
Tension Band	Felt less Lumiller	Felt Lumiller
Braking method	Tension regulator	Main & soft brake

Operating mode and necessary function

Mechanism mode	Necessary function	Operation
Cassette down	Prevention of the tape slag (Soft brake)	Soft brake
Completion of Loading	Prevention of the tape slag (Soft brake)	Tension regulator
REV	Prevention of in Play mode to REV mode (Soft brake)	Tension regulator
PLAY, FF	Back tension adjustment	Same as the conventional
STOP	Main brake function	Tension regulator

(4) Construction of Take-up brake

Take-up brake is used Band brake as well as Supply brake depend on corresponding with Band brake is adopted at the Supply Side.

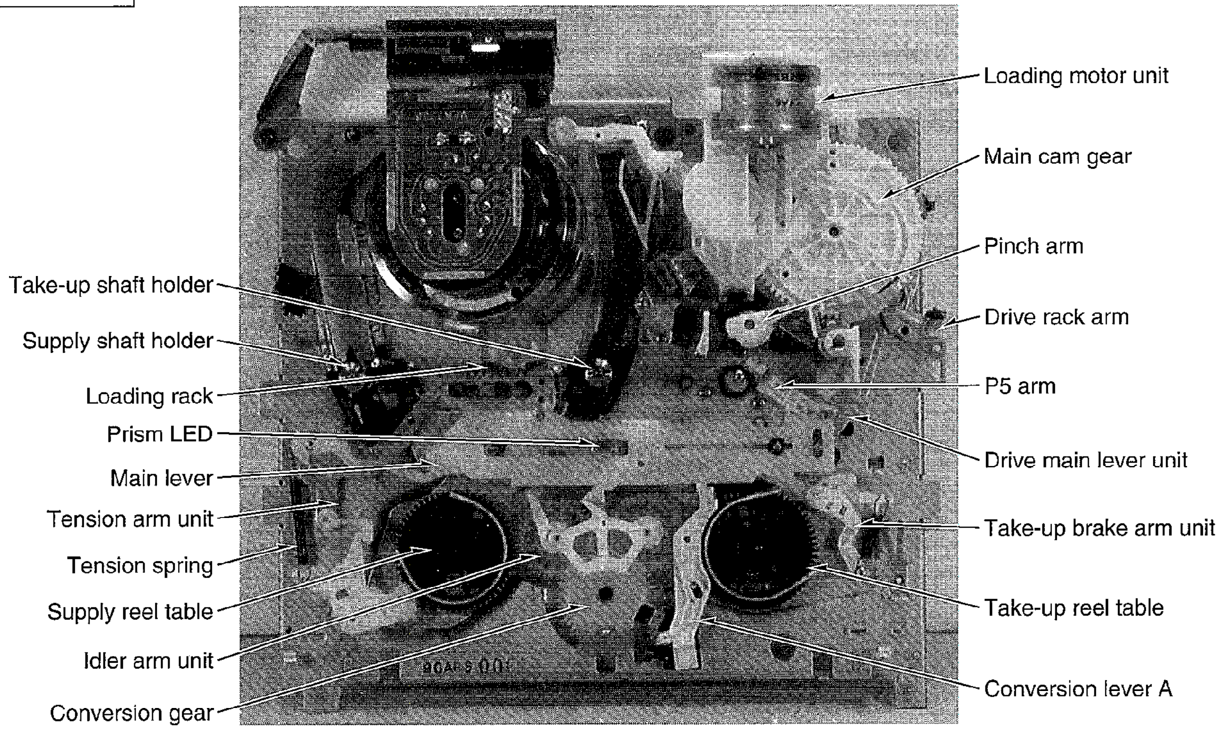
Mechanism mode	Function	Band
EJECT-MID	Soft brake	On
REV	Soft brake	On
PLAY	Release of brake	Off
STOP	Brake	On
FF/REW	Release of brake	Off

1-4. Number of Gear Phase Alignment Point and Replacement Parts

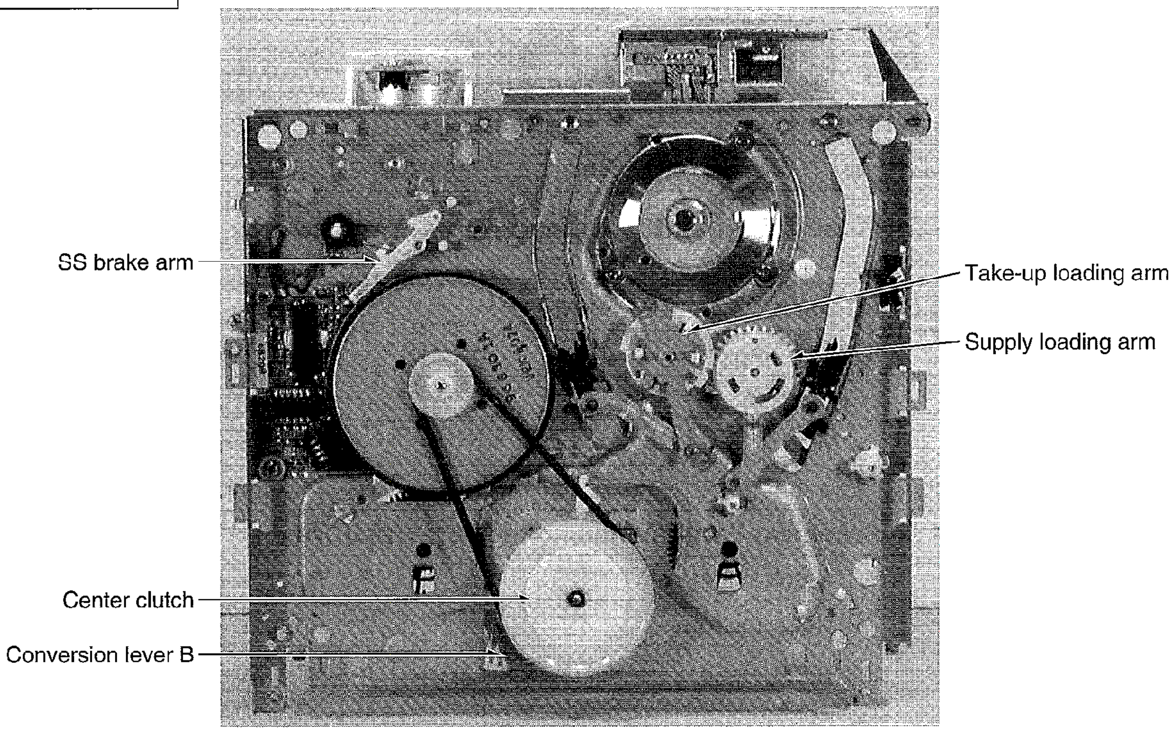
Number of Gear Phase˙ Alignment Point	
G2 Mechanism	12 Alignment Points
G Mechanism	12 Alignment Points
K Mechanism	6 Alignment Points
Z Mechanism	4 Alignment Points
Number of Replacement Parts˙ (including the Screw and Washer)	
G2 Mechanism	Approx.170 Pieces
G Mechanism	Approx. 150 Pieces
K Mechanism	Approx. 100 Pieces
Z Mechanism	Approx. 70 Pieces

Z Mechanism Components

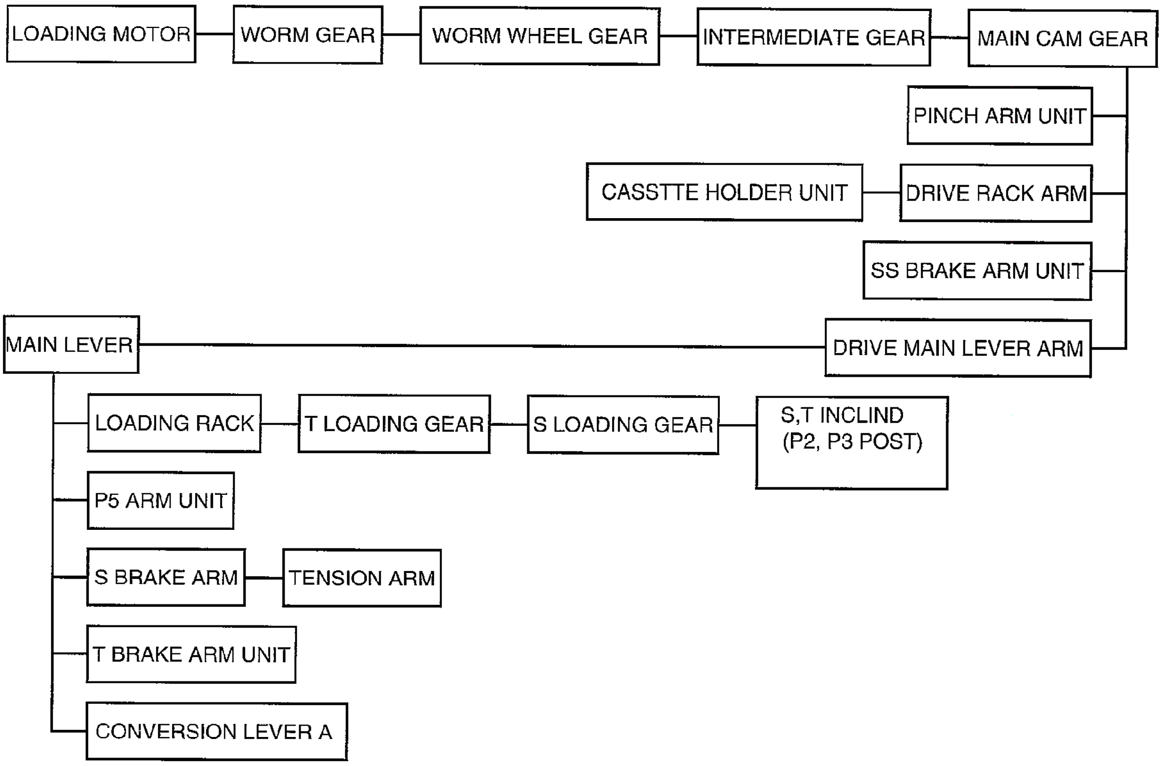
TOP VIEW

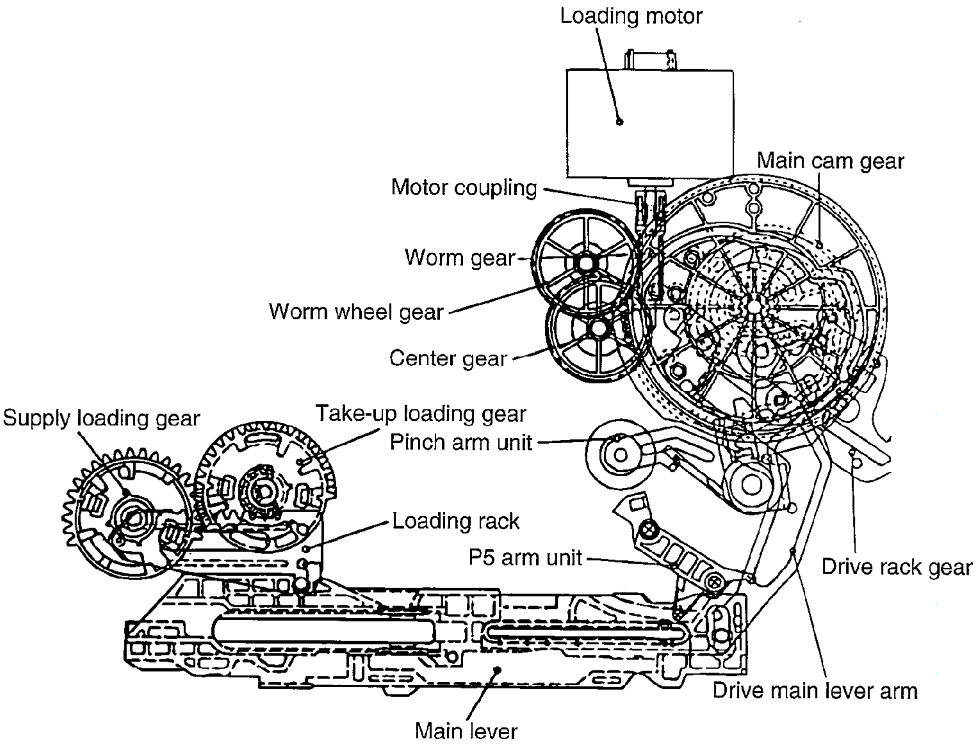

Loading motor unit
Main cam gear
Pinch arm
Take-up shaft holder
Drive rack arm
Supply shaft holder
P5 arm
Loading rack
Prism LED
Drive main lever unit
Main lever
Tension arm unit
Take-up brake arm unit
Tension spring
Supply reel table
Take-up reel table
Idler arm unit
Conversion lever A
Conversion gear

BOTTOM VIEW


SS brake arm
Take-up loading arm
Supply loading arm
Center clutch
Conversion lever B

FLOW CHART OF LOADING MECHANISM


LOADING MOTOR
WORM GEAR
WORM WHEEL GEAR
INTERMEDIATE GEAR
MAIN CAM GEAR
PINCH ARM UNIT
CASSTTE HOLDER UNIT
DRIVE RACK ARM
SS BRAKE ARM UNIT
MAIN LEVER
DRIVE MAIN LEVER ARM
LOADING RACK
T LOADING GEAR
S LOADING GEAR
S,T INCLIND
(P2, P3 POST)
P5 ARM UNIT
S BRAKE ARM
TENSION ARM
T BRAKE ARM UNIT
CONVERSION LEVER A


Loading motor
Main cam gear
Motor coupling
Worm gear
Worm wheel gear
Center gear
Supply loading gear
Take-up loading gear
Pinch arm unit
Loading rack
P5 arm unit
Drive rack gear
Drive main lever arm
Main lever

2. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

2-1. Removal of compulsory loading

(1) Press FF, REW and EJECT buttons simultaneously and set the Service Mode 7

(2) Press STOP button in order to unload the mechanism. (Pay an attention of tape slag)
Service Mode Indication :
7 ※※ ※※ (STOP)→7 00 ※※ (EJECT)

2-2 Removal of manual operation of Main cam gear

(1) Disconnect the AC power cord and remove Top Panel.

(2) Rotate Main cam gear to the clockwise and unload the mechanism (Tape is remaining) (Fig. A1).

TOP VIEW

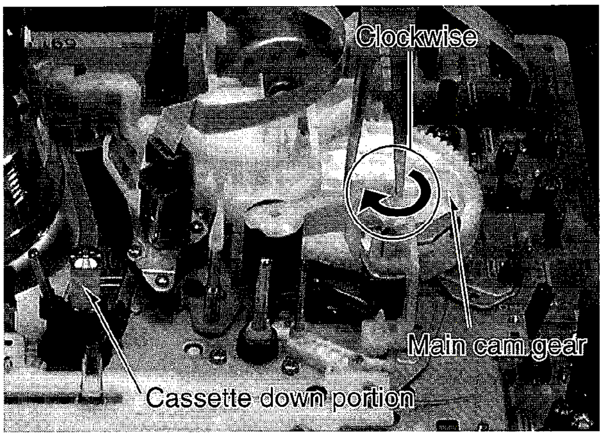


Fig. A1

(3) Rotate the Pole of Capstan motor to the clockwise from the bottom in order to remove the tape slag (Fig. A2).

BOTTOM VIEW

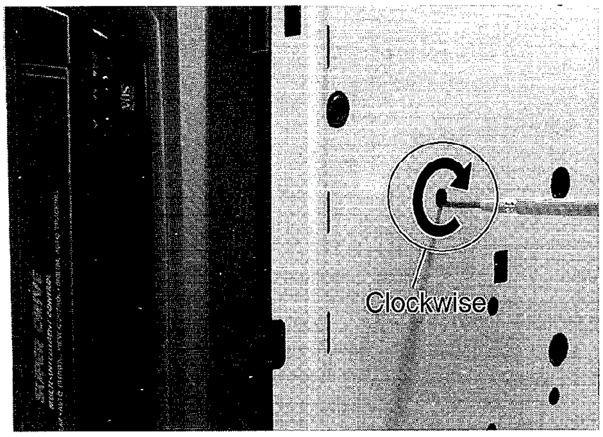


Fig. A2

(4) Rotate Main cam gear to the clockwise in order to eject the cassette tape.

3. REMOVAL OF CASSETTE HOLDER UNIT & MECHANISM CHASSIS

3-1. Removal of Cassette holder unit

(1) Remove Top panel and Front panel unit (Fig. B1)

TOP VIEW

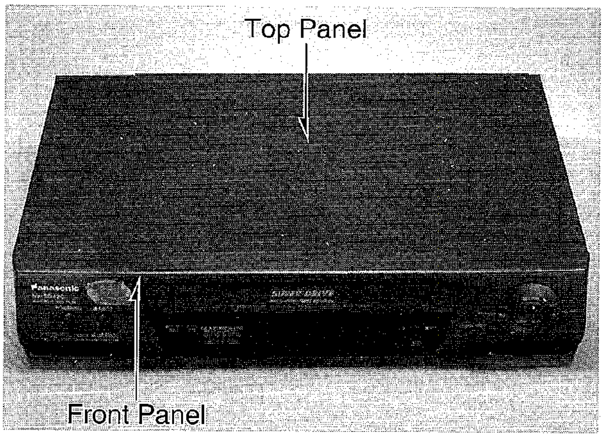

Top Panel
Front Panel

Fig. B1

(2) Remove Top plate

Remove 4 tabs fixing Top plate and remove Top plate (Fig. B2).

※ 4 Tabs should be removed softly due to they are fragile.

TOP VIEW

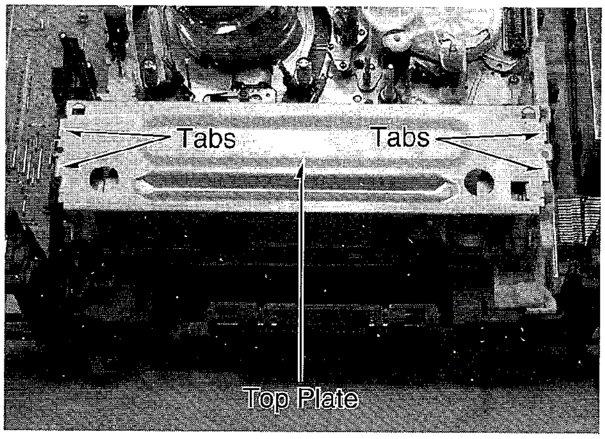

Tabs
Tabs
Top Plate

Fig. B2

(3) Remove Cassette Holder Plate

Keep pressing 2 stoppers on Cassette holder Plate and Press Cassette holder plate to the rear and remove it from Left and Right Side Plate (Fig. B3).

TOP VIEW

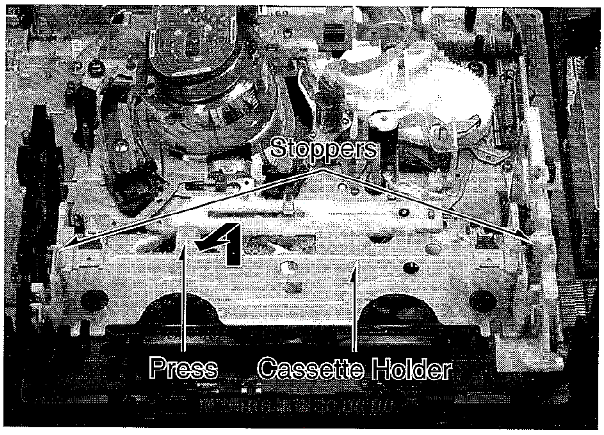

Stoppers
Press
Cassette Holder

Fig. B3

(4) Remove Left and Right Side Plate

Remove Conjuction spring of Drive gear.

Remove 3 red screws, 3 tabs and remove Left and Right Side Plate (Fig. B4, B5).

TOP VIEW

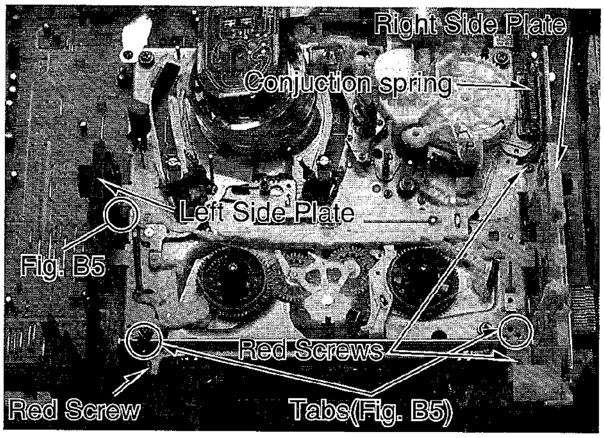

Right Side Plate
Conjuction spring
Left Side Plate
Fig. B5
Red Screws
Red Screw
Tabs(Fig. B5)

Fig. B4

TOP VIEW

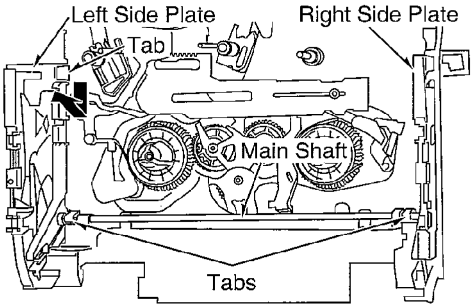

Left Side Plate
Right Side Plate
Tab
Main Shaft
Tabs

Fig. B5

(5) Remove Main shaft (Fig. B6)

TOP VIEW

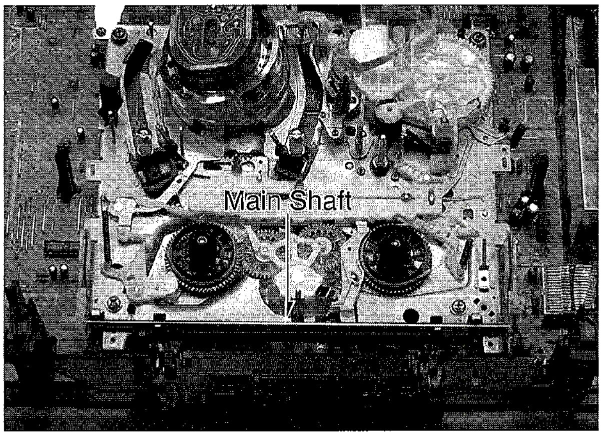


Fig. B6

3-2. Removal of Mechanism chassis

(1) Remove Mechanism chassis

Disconnect P3001, P2502 and P4001. Remove 5 screws (3 red screws and 2 gold screws) on Mechanism chassis and take out Mechanism chassis (Fig. B7).

TOP VIEW

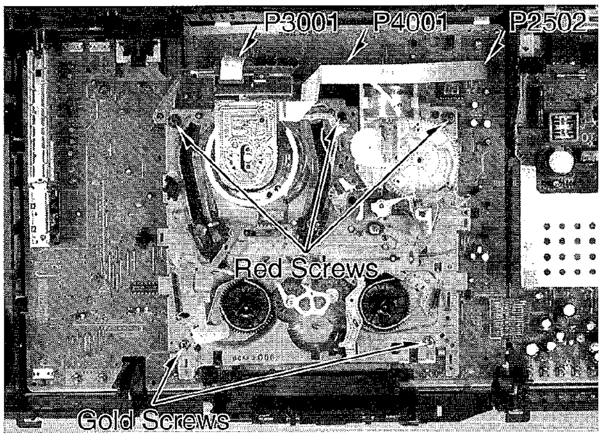

P3001
P4001
P2502
Red Screws
Gold Screws

Fig. B7

4. DISASSEMBLY/ASSEMBLY METHOD FOR MECHANISM

4-1. Disassembly of mechanism

1. Removal of Pinch arm

   Unlock the tab (opener space). Remove Opener space and Pinch arm (Fig. C1).

2. Removal of Loading motor unit

   Unlock 3 tabs and remove Loading motor unit (Fig. C1 C2)

   2 tabs of them located on the bottom of the Mechanism (Fig. C2).

TOP VIEW

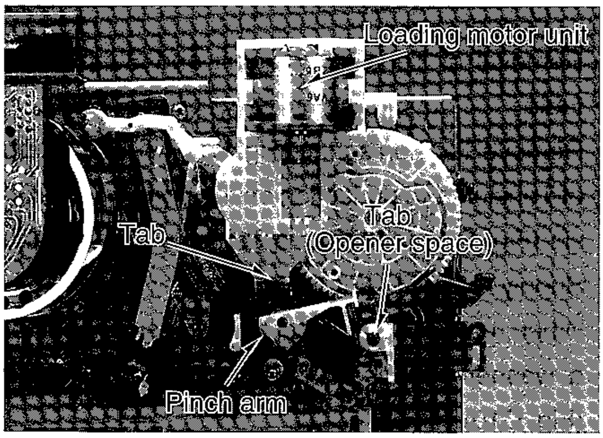

Loading motor unit
Tab
Tab
(Opener space)
Pinch arm

Fig. C1

BOTTOM VIEW

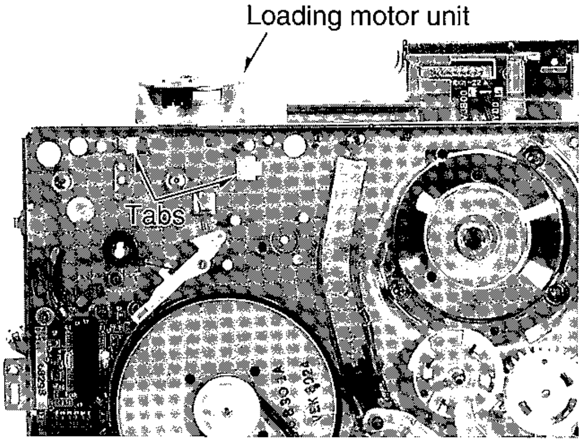

Loading motor unit
Tabs

Fig. C2

3. Removal of Main cam gear

   Remove Snap washer located on the bottom of Chassis by using retaining ring remover (Fig. C3) and remove Main cam gear (Fig. C4).

BOTTOM VIEW

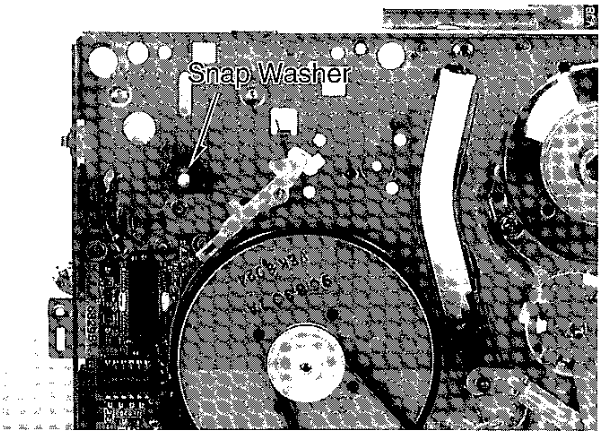

Snap Washer

Fig. C3

TOP VIEW

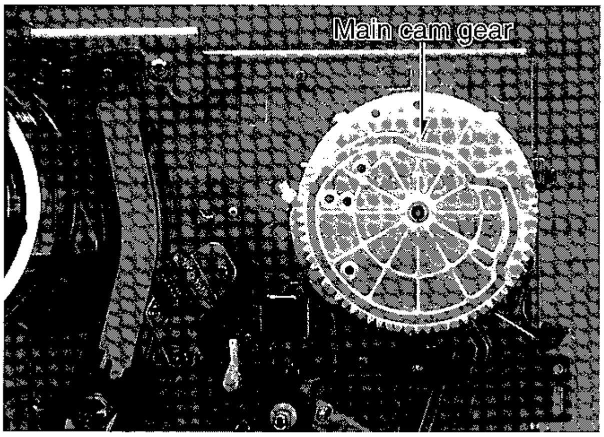

Main cam gear

Fig. C4

4. Removal of Drive rack arm
   Rotate Drive rack arm to the counterclockwise and remove it (Fig. C5)

TOP VIEW

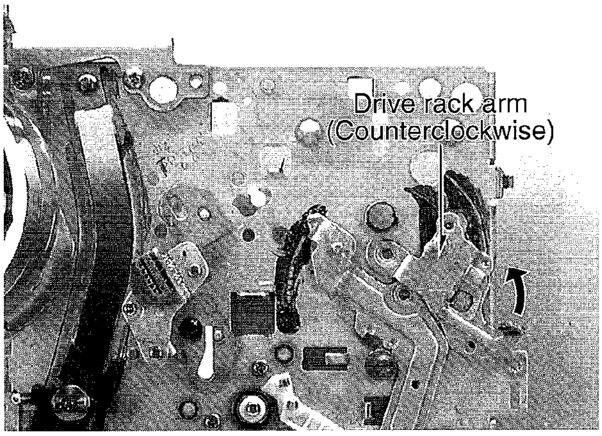

Drive rack arm
(Counterclockwise)

Fig. C5

5. Removal of Main lever, P5 arm and Conversion lever A
   Removal cut washer located on the main lever. Unlock 2 tabs of Prism LED and 1 tab on the projection of Chassis while keep lifting the left side of Main lever, and remove Main lever, P5 arm and Conversion lever A (Fig. C6).

※ It is easier to unlock the tabs by using a tweezer.

TOP VIEW

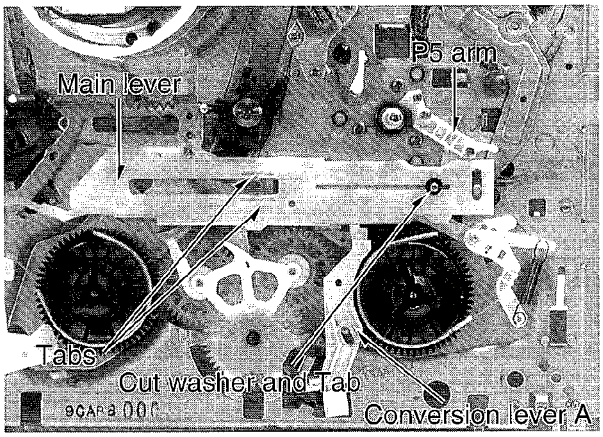

P5 arm
Main lever
Tabs
Cut washer and Tab
Conversion lever A

Fig. C6

6. Removal of Drive main lever arm
   Rotate Drive main lever arm to the counterclockwise and remove it (Fig. C7).

TOP VIEW

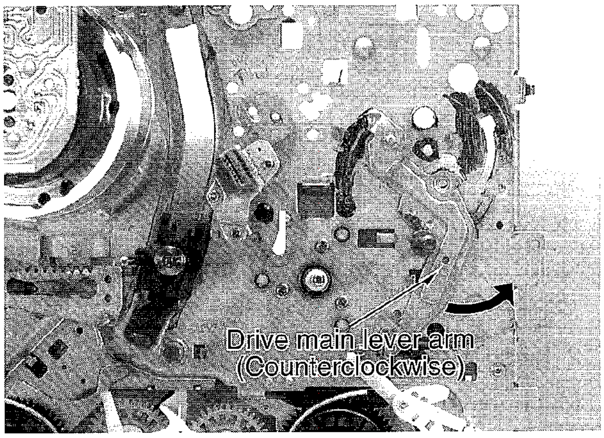

Drive main lever arm
(Counterclockwise)

Fig. C7

7 Removal of Tension arm unit and Supply reel table
   Remove Tension spring (Fig. C8). Unlock the tab of Tension arm projection on the bottom of Chassis (Fig. C9) and remove Tension arm unit and Supply reel table (Fig. C8).

※ When remove supply reel table, be sure whether a washer attaches on Supply reel table shaft (Fig. C10).

TOP VIEW

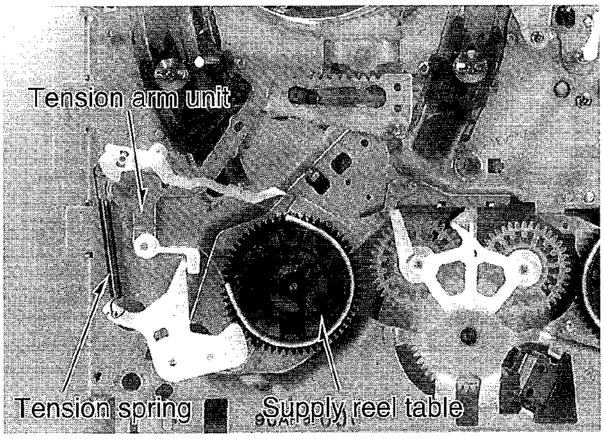

Tension arm unit
Tension spring
Supply reel table

Fig. C8

BOTTOM VIEW

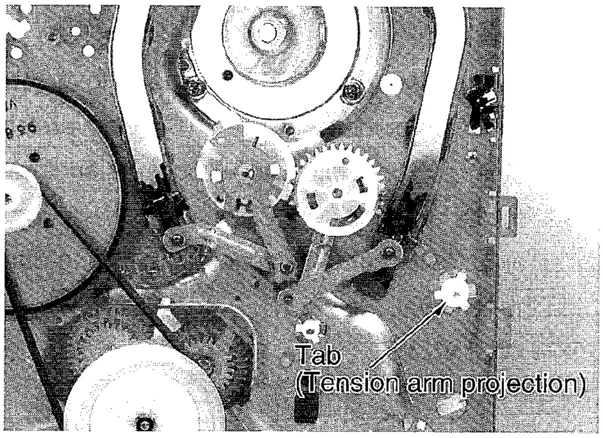

Tab
(Tension arm projection)

Fig. C9

SIDE VIEW

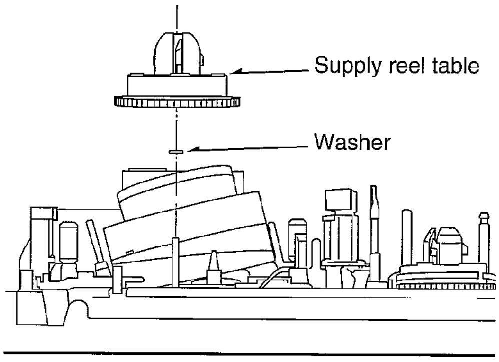

Supply reel table
Washer

Fig. C10

8 Remove of Take-up brake arm unit and Take-up reel table

Unlock the tab of Take-up brake arm unit from the bottom of Chassis (Fig. C12). Remove Take-up brake arm unit and Take-up reel table (Fig. C11).

※ When remove Take-up reel table, be sure whether a washer attaches on Take-up reel table shaft (Fig. C13).

TOP VIEW

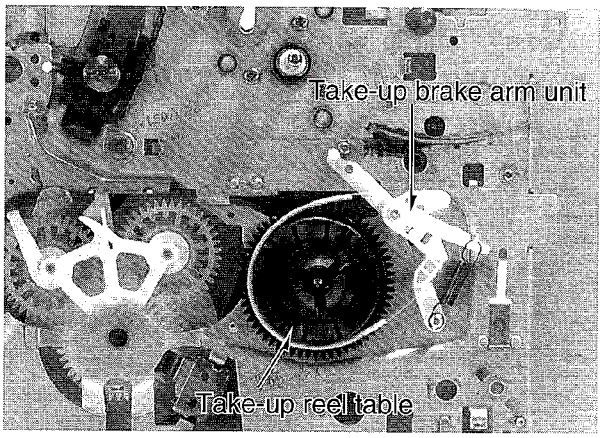

Take-up brake arm unit
Take-up reel table

Fig. C11

BOTTOM VIEW

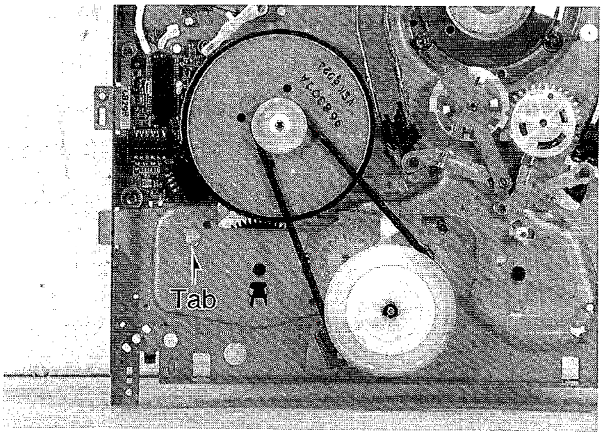


Fig. C12

SIDE VIEW

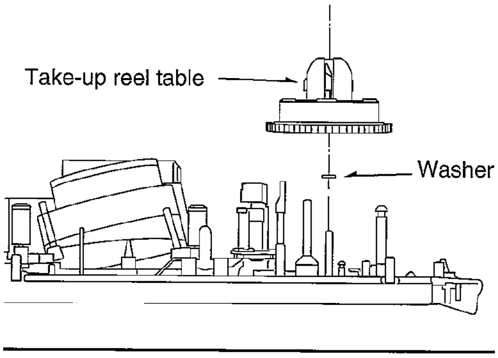

Take-up reel table
Washer

Fig. C13

9. Removal of Take-up & Supply loading arm
   Unlock the tab and remove Take-up and Supply loading arm (Fig. C14).

BOTTOM VIEW

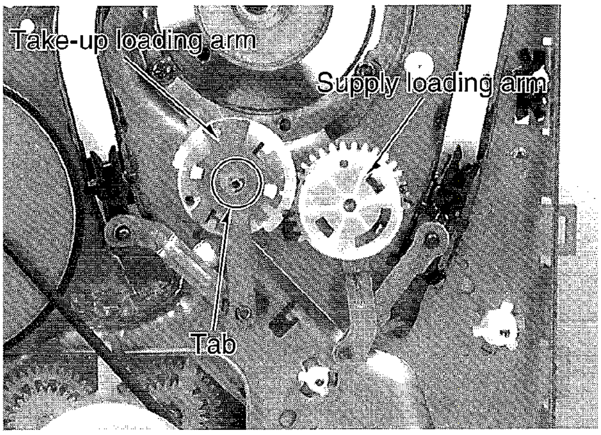

Take-up loading arm
Supply loading arm
Tab

Fig. C14

10 Removal of Prism LED, Take-up & Supply shaft holder and Loading rack
   Push the tab of Prism LED and remove Prism LED Remove Take-up and Supply shaft holder from the groove of Chassis and remove Loading rack (Fig. C15).

TOP VIEW

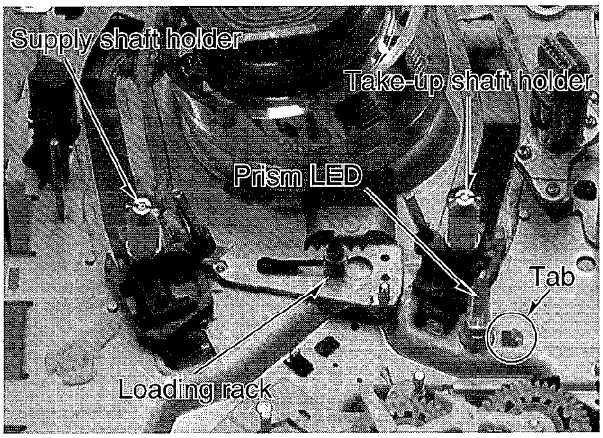

Supply shaft holder
Take-up shaft holder
Prism LED
Tab
Loading rack

Fig. C15

11. Removal of Center clutch, Conversion gear spring, Conversion gear, Conversion lever B and Idler arm unit
    Remove the Belt and the Cut washer (Fig. C16).
    Remove Center clutch (Fig. C16) Conversion gear spring, Conversion gear, Conversion lever B and Idler arm unit (Fig. C17).

※ Pay an attention of Conversion gear spring during the removal.

BOTTOM VIEW

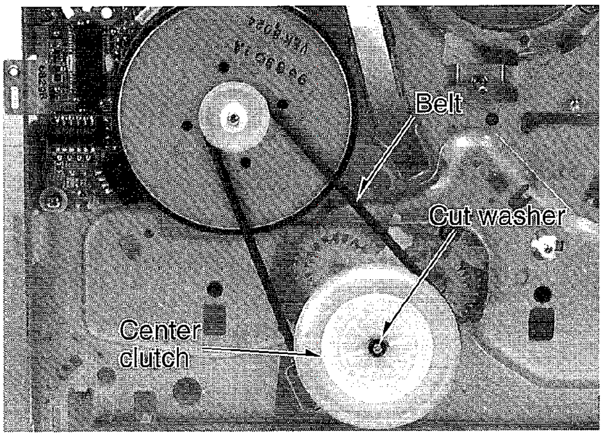

Belt
Cut washer
Center clutch

Fig. C16

BOTTOM VIEW

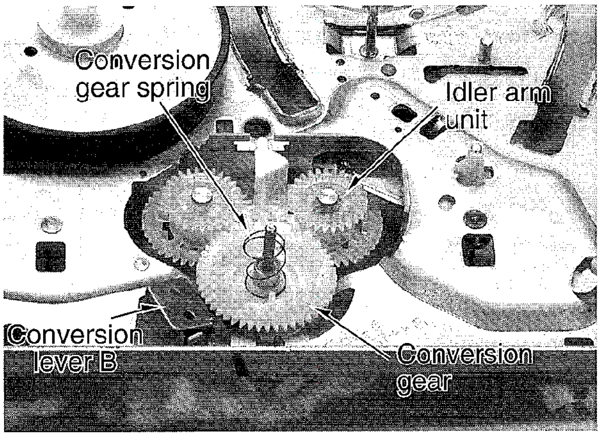

Conversion gear spring
Idler arm unit
Conversion lever B
Conversion gear

Fig. C17

12. Removal of Capstan unit

Remove 3 gold screws (Fig. C18).

Remove 2 gold screws on the bottom of Chassis (Fig. C19)

Keep moving SS brake arm and remove Capstan unit.

TOP VIEW

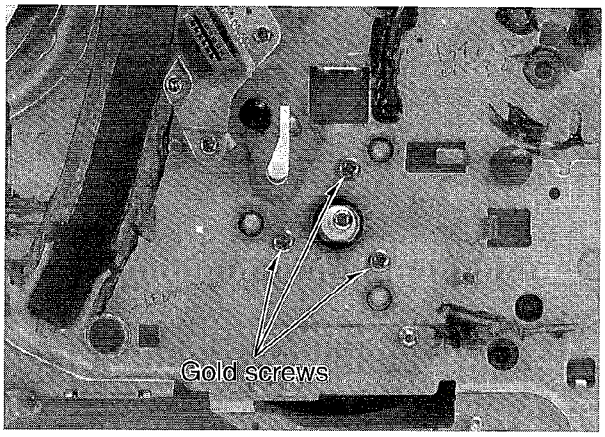

Gold screws

Fig. C18

BOTTOM VIEW

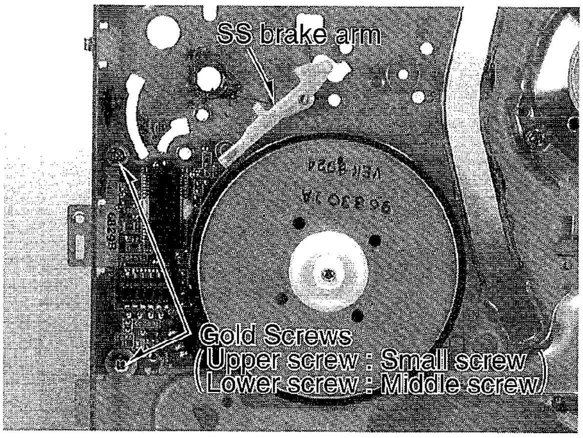

SS brake arm
Gold Screws
(Upper screw : Small screw)
(Lower screw : Middle screw)

Fig. C19

13. Removal of Cylinder unit

Removal red screw (Fig. C20).

Remove 3 gold screws on the bottom of Chassis and remove Cylinder unit (Fig. C21).

TOP VIEW

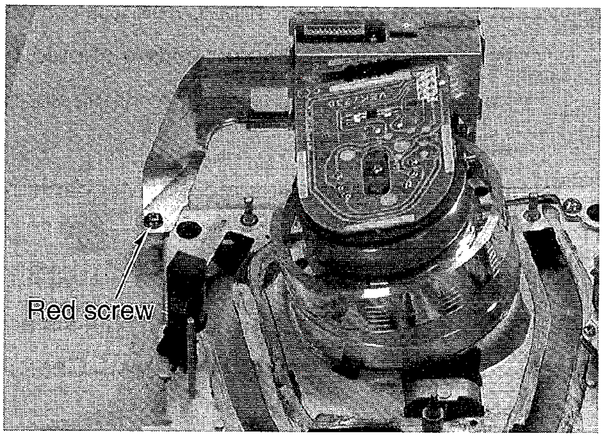


Fig. C20

BOTTOM VIEW

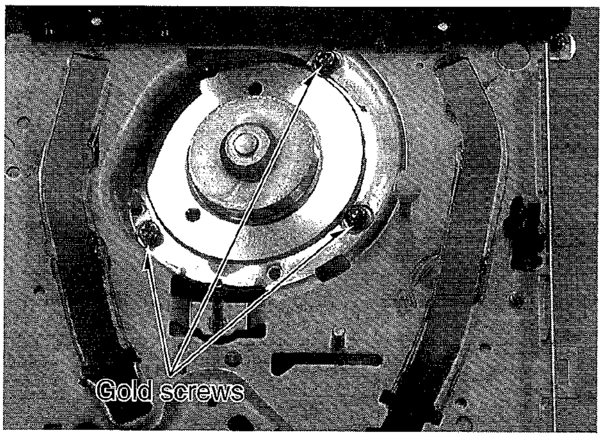

Gold screws

Fig. C21

4-2. Assembly and phase adjustment of mechanism

The gear phase alignment has been performed in the EJECT position and it is crucial for the Z Mechanism to operate correctly.

NOTE: In case of the parts replacement like Position switch, Mechanism position should be set to Eject position in order to fit the phase of Position switch

1 Assembly and phase adjustment of Mechanism

(1) Assembly of Cylinder unit

Cylinder unit should be fixed by 3 screws (GOLD) from the bottom side of Mechanism chassis and red screw on the top side of Mechanism Chassis (Fig. E1, E2).

BOTTOM VIEW

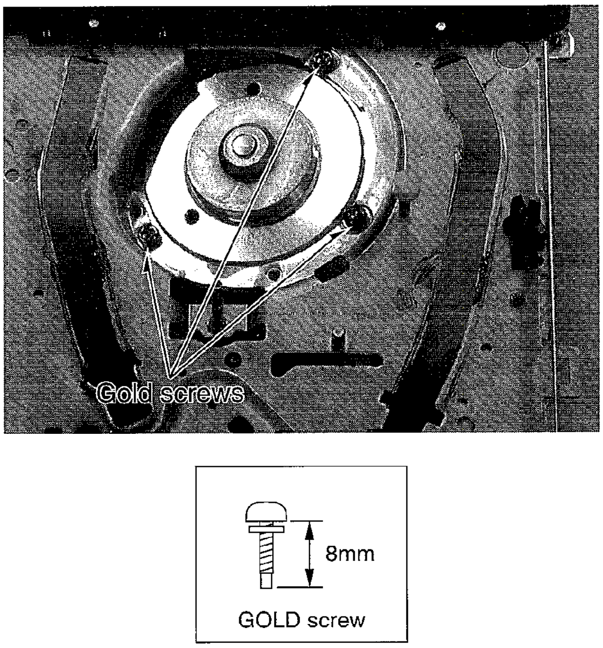

Gold screws
8mm
GOLD screw

Fig. E1

TOP VIEW

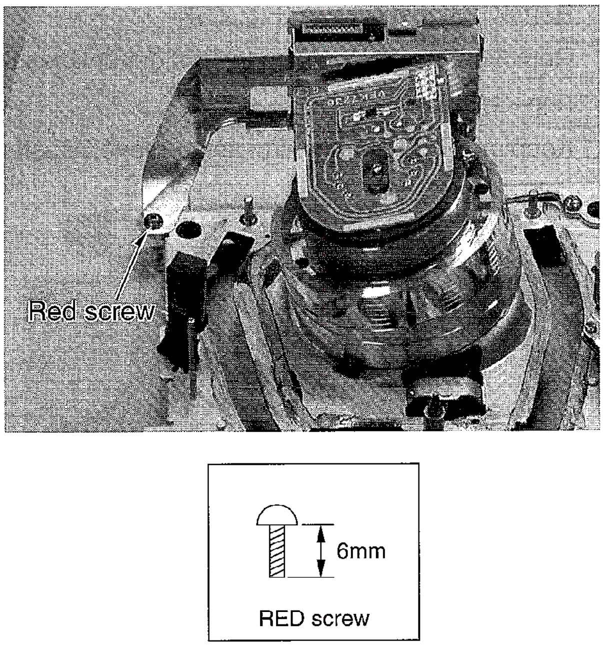

Red screw
6mm
RED screw

Fig. E2

(2) Assembly of Capstan unit

Move SS brake arm in the direction of arrow (see Fig. E3) and capstan unit should be fixed by 2 screws (GOLD) on the bottom side of Mechanism chassis and 3 screws (GOLD) on the top of Mechanism chassis (Fig. E3 E4)

BOTTOM VIEW

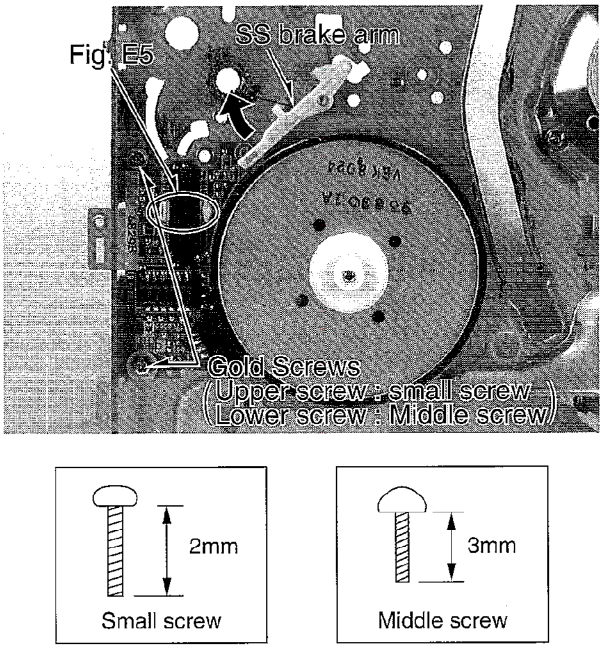


Fig. E5
SS brake arm
Gold Screws
(Upper screw : small screw)
(Lower screw : Middle screw)
2mm
Small screw
3mm
Middle screw

Fig. E3

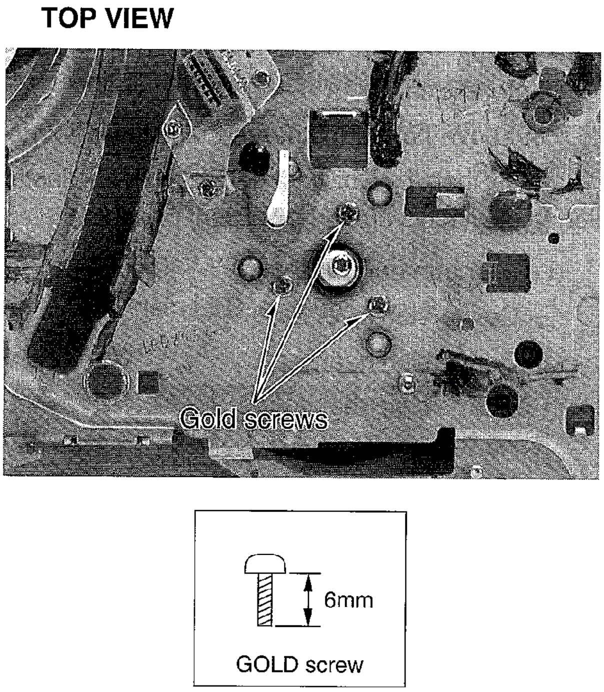


Fig. E4

NOTE: Replacement of Capstan unit and Procedure of applying the silicone grease.

REPLACEMENT OF CAPSTAN UNIT

In case of replacement of the Capstan Unit the Silicone grease have to be applied between the Mechanism chassis and the Drive IC by the following procedure.

Silicone grease No. VFK1301 for radiation of the Drive IC

Silicone grease is used for the radiation of the Drive IC. The heat occurred on the IC is radiated to the Mechanism chassis through the grease. In case of the incomplete radiation, the safety circuit operates depending on the rise of the temperature and it possibility stop the operation of the Drive IC

PROCEDURE OF APPLYING THE SILICONE GREASE

① There is a cut-out part at the Drive IC mounting position and the bottom of the IC can be seen from the cut-out part Apply the Silicon grease to whole the cut-out part of IC as shown in Fig. E5-1 so that the grease is piled 0 3–0 5 mm from the surface of the C B A

② Next, from the component side of the C.B A., apply the Silicon grease so that the grease is piled at the metal of the center of the IC as shown in Fig. E5-2.

Fig. E5-1. Apply the Silicon grease so that the grease is piled 0.3–0.5 mm from the surface of the C.B.A.

Fig. E5-2. Apply the Silicon grease at the metal of the center of the IC.

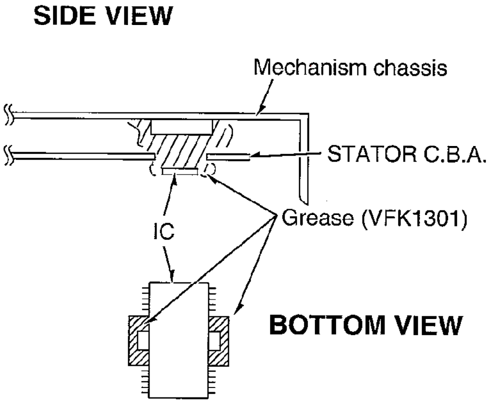


Fig. E5

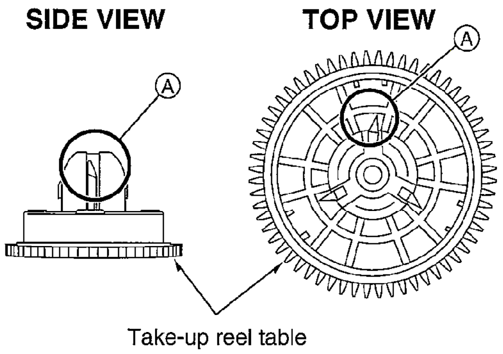

SIDE VIEW
TOP VIEW
Ⓐ
Ⓐ
Take-up reel table

Fig. E11

(7) Assembly of Supply reel table and Tension arm unit

Install washer (Fig. E13) and Supply reel table. Insert Tension arm unit to Tension arm projection and hang Tension spring with Supply spring arm projection (Fig. E12).

※1 Pay an attention of Position of the Supply spring arm.

NOTE: The shape between portion A for Take-up reel table and portion B for Supply reel table is different.

Therefore, confirm the shape of portion A and B before mounting reel tables. If Take-up reel table has been confused with Supply reel table and they have been installed, the trouble of reel table rotation slip happens (Fig. E14).

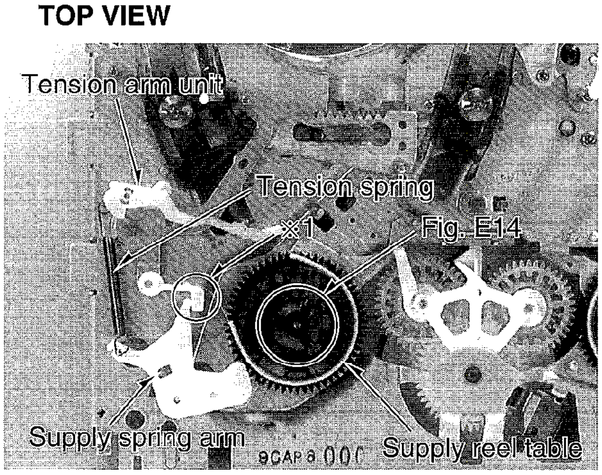

TOP VIEW
Tension arm unit
Tension spring
※1
Fig. E14
Supply spring arm
9CAP8 00C
Supply reel table

Fig. E12

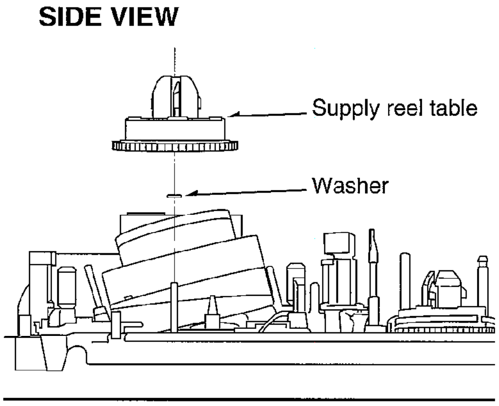

SIDE VIEW
Supply reel table
Washer

Fig. E13

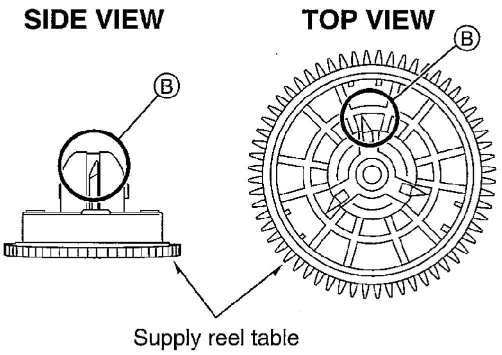

SIDE VIEW
TOP VIEW
Ⓑ
Ⓑ
Supply reel table

Fig. E14

(8) Assembly of Drive main lever arm

Install Drive main lever arm so that Drive main lever arm fits to the groove of Chassis.

And rotate Drive main lever arm to the clockwise in order to adjust the phase between the hole of the position fixture and the penetration hole of Chassis (Fig. E15).

TOP VIEW

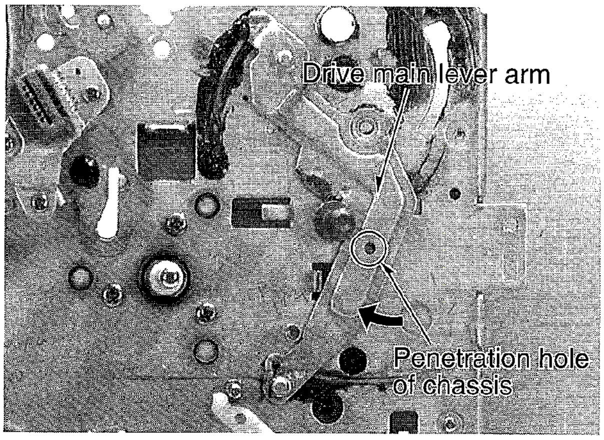

Drive main lever arm
Penetration hole of chassis

Fig. E15

(9) Assembly of Conversion lever A, P5 arm and Main lever

Install Conversion lever A and P5 arm (Fig. E16, E17).

Adjust the phase of Main lever so that Main lever fits the projection of Loading rack.

Main lever has to be locked at the projection of Chassis by 2 tabs of Prism LED (Fig. E16).

※ Conversion lever A, P5 arm, Supply brake arm unit and the projection of Take-up brake arm have to be installed to the groove under the Main lever (Fig. E18).

TOP VIEW

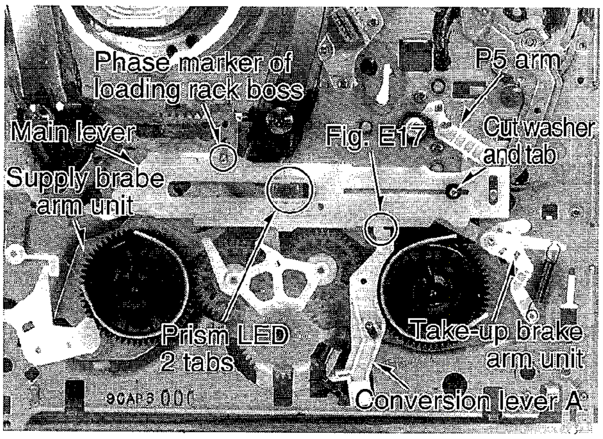

Phase marker of loading rack boss
P5 arm
Main lever
Fig. E17
Cut washer and tab
Supply brabe arm unit
Prism LED 2 tabs
Take-up brake arm unit
Conversion lever A

Fig. E16

TOP VIEW

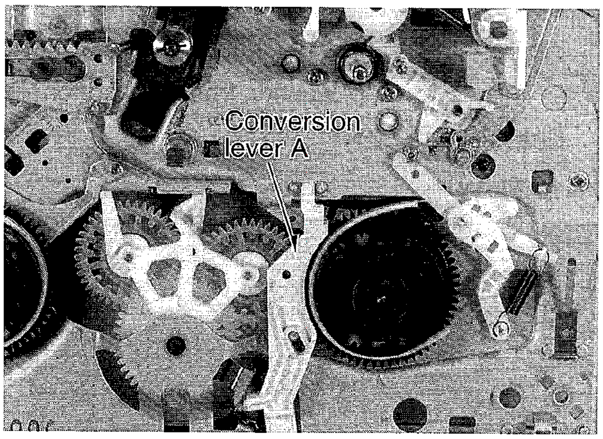

Conversion lever A

Fig. E17

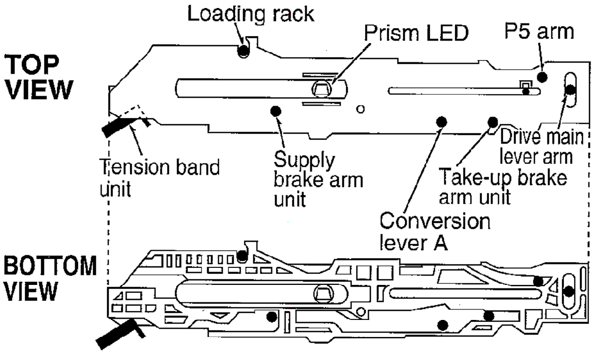

TOP VIEW
Loading rack
Prism LED
P5 arm
Drive main lever arm
Tension band unit
Supply brake arm unit
Take-up brake arm unit
Conversion lever A
BOTTOM VIEW

Fig. E18

(10) Assembly of Drive rack arm

Install Drive rack arm so that Drive rack arm fits the groove of Chassis and rotate it to the clockwise in order to fit the penetration hole of Chassis (Fig. E19)

TOP VIEW

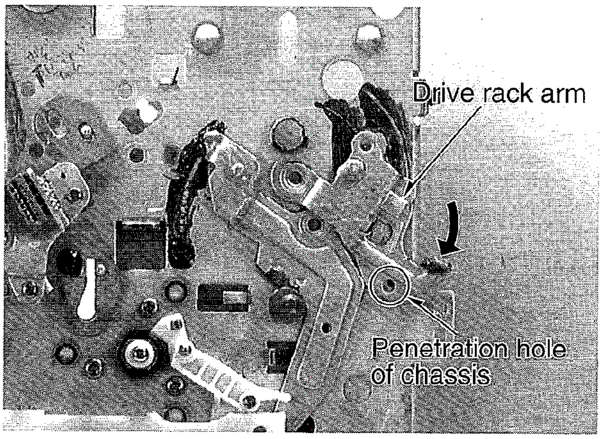

Drive rack arm
Penetration hole of chassis

Fig. E19

(11) Assembly of Main cam gear

Install Main cam gear so that Main cam gear fits the penetration hole of Chassis (Fig. E20) and fix it by the snap washer from the bottom of Chassis (Fig. E21).

TOP VIEW

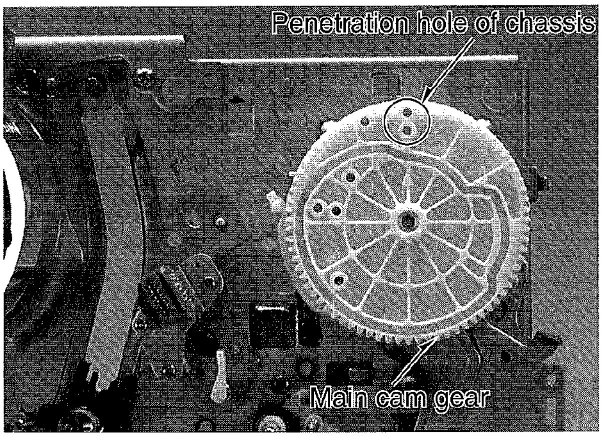
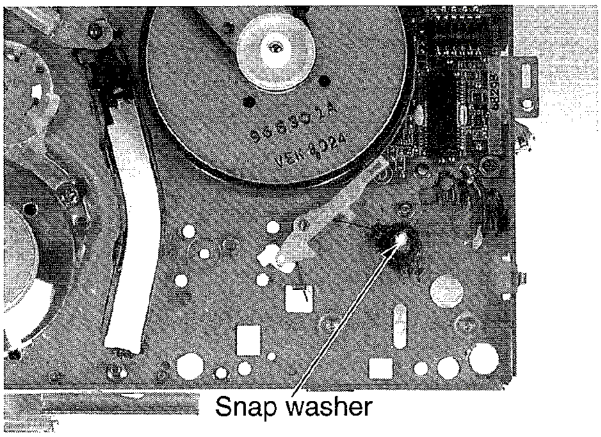

Penetration hole of chassis
Main cam gear

Fig. E20

BOTTOM VIEW


Snap washer

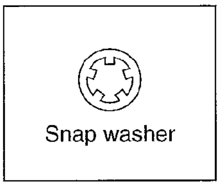

Snap washer

Fig. E21

(12) Assembly of Loading motor unit

Install Loading motor unit so that Loading motor unit fits the groove of Chassis (Fig. E22).

(13) Assembly of Pinch arm

Put Pinch arm together and install Opener space to fix Pinch arm (Fig. E22).

TOP VIEW

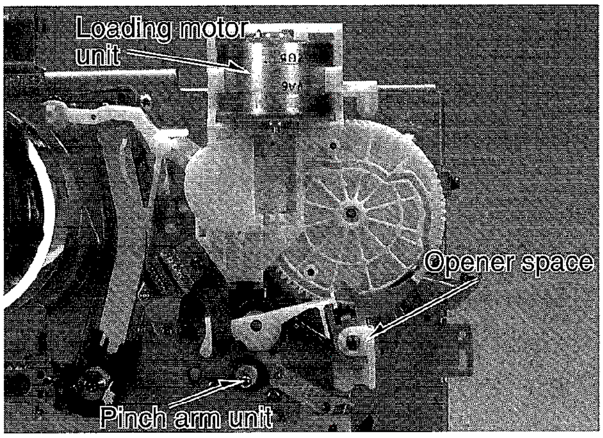

Loading motor unit
Opener space
Pinch arm unit

Fig. E22

4-3 Assembly of mechanism chassis

1 Assembly of Mechanism chassis

(1) Adjust the phase of Position switch in Main C B A..

Rotate Position switch until the click point. The projection of Position switch should be set to just above (Fig. F1)

TOP VIEW

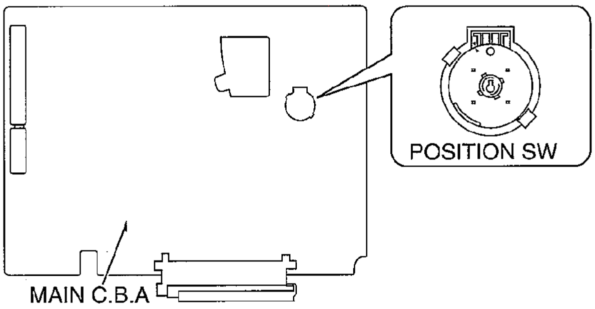

POSITION SW
MAIN C.B.A

Fig. F1

(2) Assembly of Mechanism chassis

Put Mechanism chassis on Main C.B.A. and fix it by 5 screws (3 red screws and 2 gold screws). Connect P3001, P2502 and P4001 (Fig. F2)

TOP VIEW

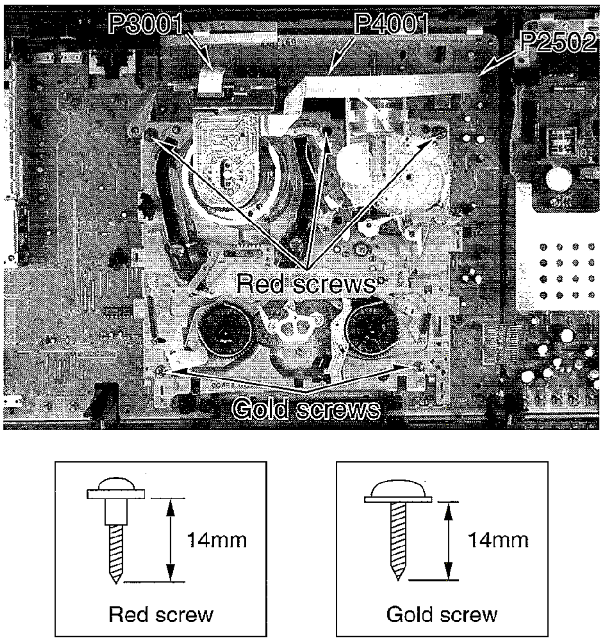

P3001
P4001
P2502
Red screws
Gold screws
14mm
Red screw
14mm
Gold screw

Fig. F2

※ The red screws has a gap among the chassis. Therefore be careful not to tighten too much.

2. Assembly of Cassette holder unit

(1) Assembly of Main shaft

Install Main shaft so that Main shaft fits the groove of Chassis (Fig. F3)

TOP VIEW

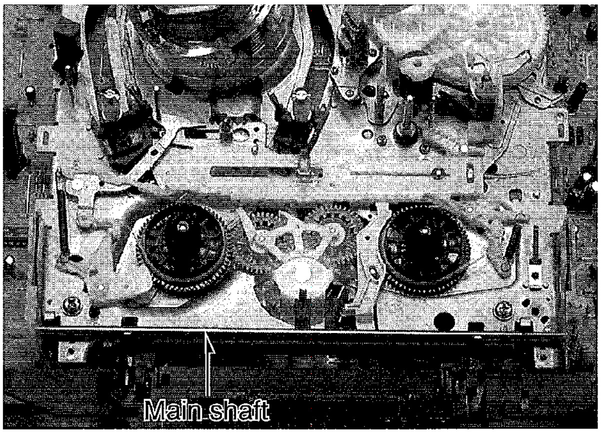


Fig. F3

(2) Assembly of Left & Right side plate

Install Left side plate so that Left side plate fits the groove of Chassis and fix it by the red screws.

After adjustment the phase of waper arm and Drive rack (Fig. F5), install Right side plate so that Right side plate fits the groove of Chassis and fix it by 2 red screws. Hang Conjunction spring on the projection of Drive rack arm (Fig. F4, F5).

TOP VIEW

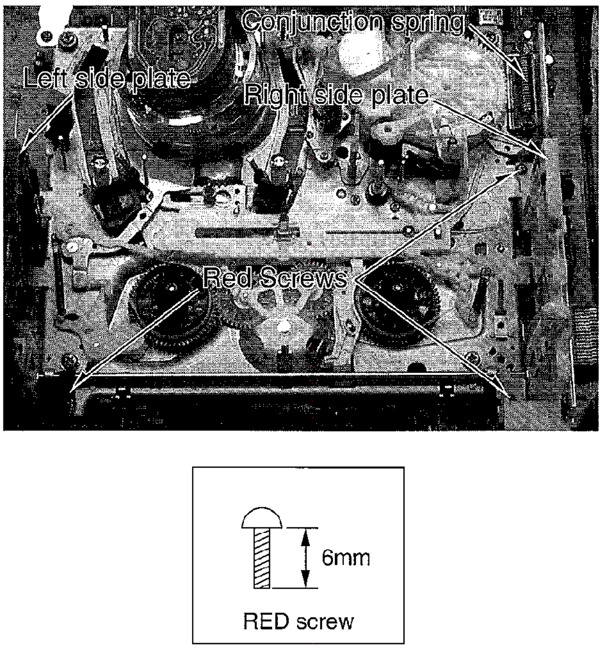

Conjunction spring
Left side plate
Right side plate
Red Screws
6mm
RED screw

Fig. F4

SIDE VIEW

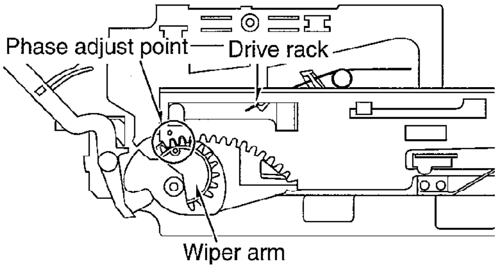

Phase adjust point
Drive rack
Wiper arm

Fig. F5

TOP VIEW

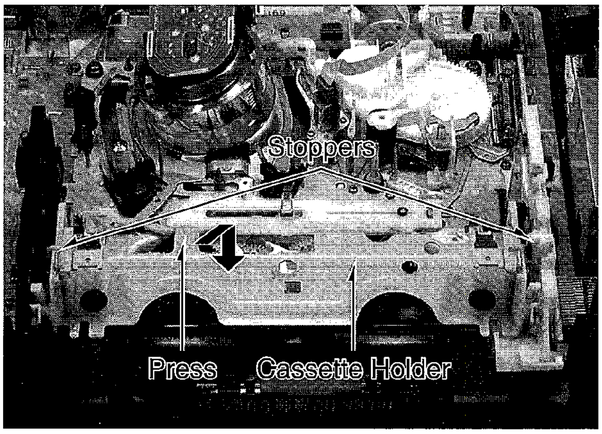

Stoppers
Press
Cassette Holder

Fig. F6

(3) Assembly of Cassette holder
Install Cassette holder so that Cassette holder fits the groove of Waper arm installed in Main shaft (Fig. F6, F7).

TOP VIEW

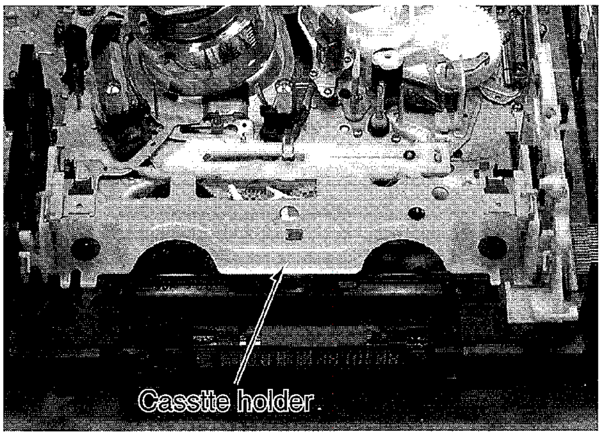

Casstte holder.

Fig. F7

(4) Assembly of Top plate
Install Top plate so that Top plate fits the groove of Left and Right side plate.

※ Fix Top plate by tightening screw when the tabs of Left and Right side plate broke (Fig. F8)

TOP VIEW

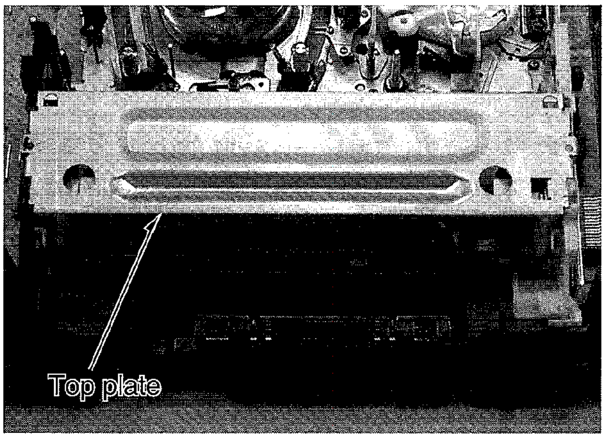
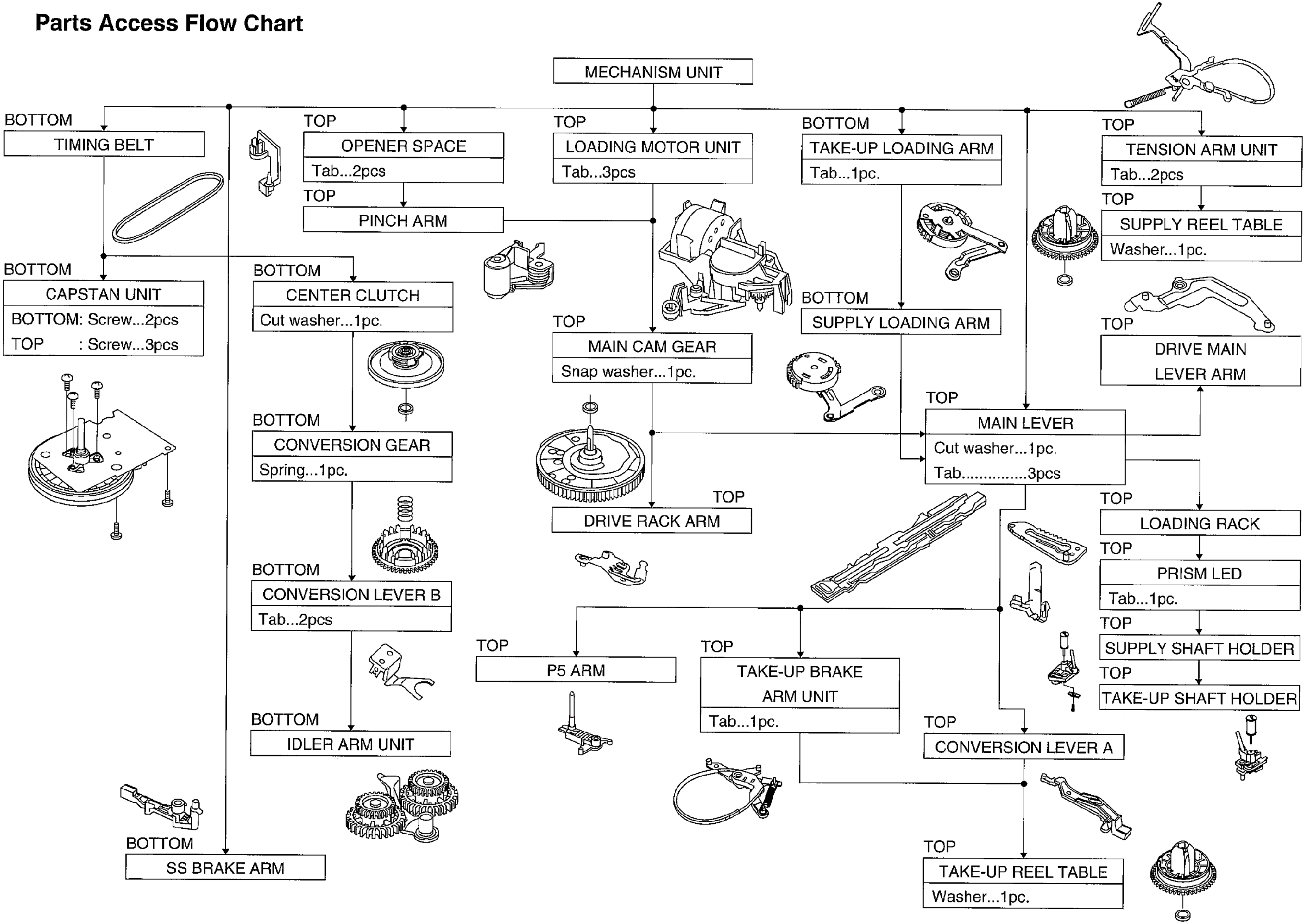


Fig. F8

(5) Install Front panel unit and Top panel

Parts Access Flow Chart


MECHANISM UNIT
BOTTOM
TIMING BELT
TOP
OPENER SPACE
Tab...2pcs
TOP
PINCH ARM
TOP
LOADING MOTOR UNIT
Tab...3pcs
BOTTOM
TAKE-UP LOADING ARM
Tab...1pc.
TOP
TENSION ARM UNIT
Tab...2pcs
TOP
SUPPLY REEL TABLE
Washer...1pc.
BOTTOM
CAPSTAN UNIT
BOTTOM: Screw...2pcs
TOP : Screw...3pcs
BOTTOM
CENTER CLUTCH
Cut washer...1pc.
TOP
MAIN CAM GEAR
Snap washer...1pc.
BOTTOM
SUPPLY LOADING ARM
TOP
DRIVE MAIN LEVER ARM
TOP
MAIN LEVER
Cut washer...1pc.
Tab...............3pcs
BOTTOM
CONVERSION GEAR
Spring...1pc.
TOP
DRIVE RACK ARM
TOP
LOADING RACK
TOP
PRISM LED
Tab...1pc.
BOTTOM
CONVERSION LEVER B
Tab...2pcs
TOP
SUPPLY SHAFT HOLDER
TOP
TAKE-UP SHAFT HOLDER
TOP
P5 ARM
TOP
TAKE-UP BRAKE ARM UNIT
Tab...1pc.
BOTTOM
IDLER ARM UNIT
TOP
CONVERSION LEVER A
BOTTOM
SS BRAKE ARM
TOP
TAKE-UP REEL TABLE
Washer...1pc.

5. MECHANICAL ADJUSTMENT PROCEDURE

5-1. Tension post position adjustment

Equipment required: Hex. Wrench (VFK0326)
Specification: 50.5±1.5 mm

(1) Disconnect the AC plug.
(2) Remove the TOP PLATE.
(3) Turn the LOADING MOTOR until the loading completes.
(4) Adjust the hole of Tension Band Fastener by Hex Wrench until the distance between the Tension Post and the center of Supply reel table is 50.5±1.5 mm as shown in Fig. M1.

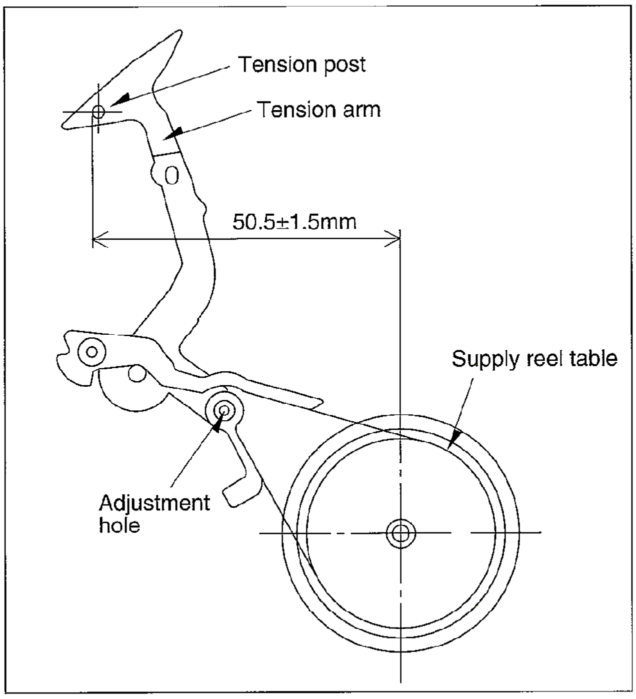

Tension post
Tension arm
50.5±1.5mm
Supply reel table
Adjustment hole

Fig. M1

5-2. Back tension adjustment

Equipment required:
Back Tension Meter (VFK0132)
VHS Cassette tape (180 minutes tape: PAL)
VHS Cassette tape (120 minutes tape: NTSC)
Specification: 22.5–27.5g

(1) Playback the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10–20 seconds)
(2) Insert the Back Tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig. M2.

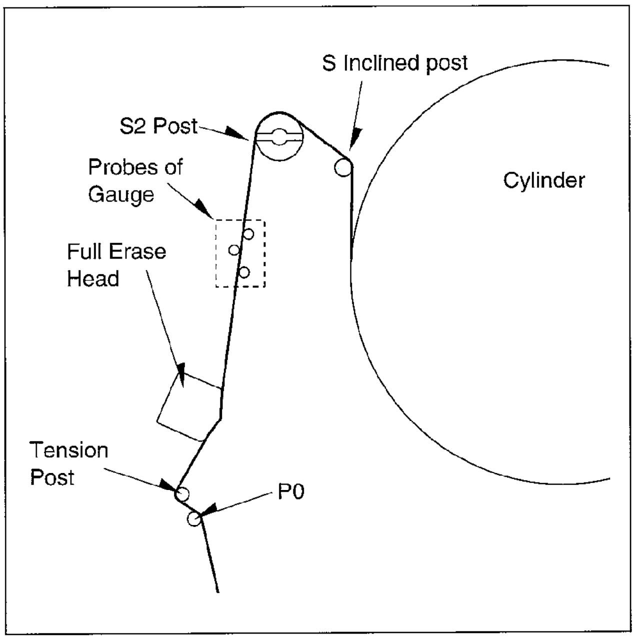

S Inclined post
S2 Post
Probes of Gauge
Cylinder
Full Erase Head
Tension Post
P0

Fig. M2

(3) If it is out of specification, change the spring notch as shown in Fig. M3.

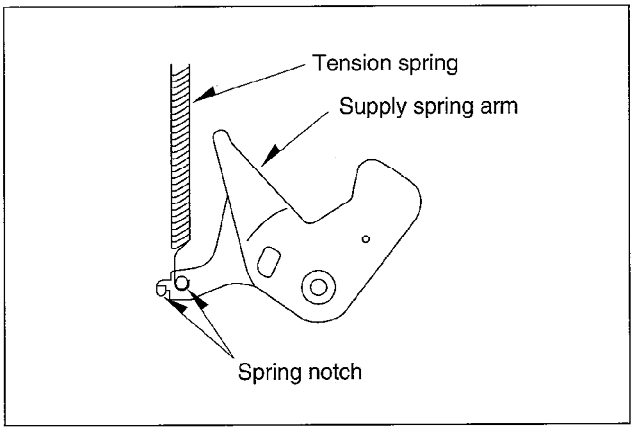

Tension spring
Supply spring arm
Spring notch

Fig. M3

5-3. P2 and P3 posts adjustment (PREADJUSTMENT)

Equipment Required:
Post Adjustment Screwdriver (VFK0329)

(1) Remove the Top Plate.

(2) Turn the Loading Motor until the unloading completes.

(3) Rotate the P2 and P3 Posts clockwise to the end. (Fig. M4)

(4) Rotate the P2 and P3 Posts twice counterclockwise. (Fig. M4)

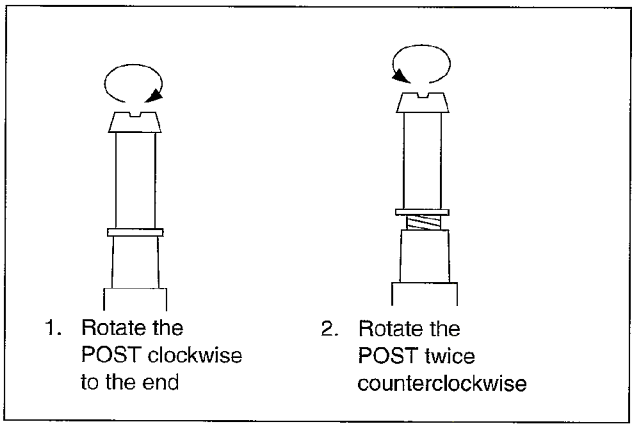

1. Rotate the POST clockwise to the end
2. Rotate the POST twice counterclockwise

Fig. M4

(5) Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P2, P3, and P4 Posts as shown in Fig. M5.

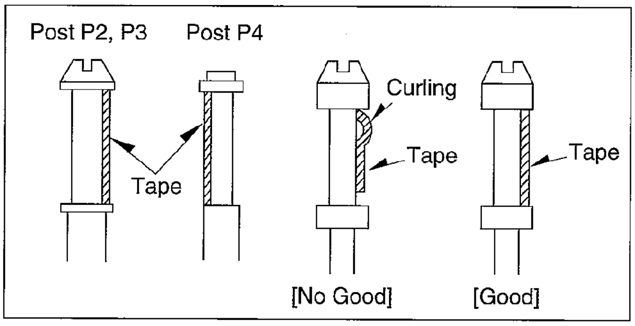


Fig. M5

(6) If the curling appears, readjusts the P2 and P3 Posts.

5-4. Tape interchangeability adjustment

Carry out the following procedures for Tape Interchangeability Adjustment to do it correctly and smoothly.

(1) P2 AND P3 POSTS ADJUSTMENT

(2) ADJUSTMENT OF P4 POST

(3) HEIGHT ADJUSTMENT OF A/C HEAD

(4) FINE-ADJUSTMENT OF A/C HEAD

(5) ADJUSTMENT OF X-VALUE (PREADJUSTMENT)

(6) FINE-ADJUSTMENT OF X-VALUE

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (6).

CAUTIONS: To make an Adjustment Mode for Tape Interchangeability, press the FF, REW and EJECT buttons simultaneously 3 times to set the Service Mode 2.

NOTE: Cleaning the Tape Transport path before adjusting of Tape Interchangeability. The detail portion is shown below.
P0 Post, Tension Posts, FE Head, P2 Post, Supply Inclined Post, Cylinder Unit, Take-up Inclined Post, P3 Post, A/C Head, P4 Post, Pinch Roller, Capstan Shaft, P5 Post. FE Head, Cylinder Unit, A/C Head and Capstan Shaft are more important parts and pay an attention to clean them.

5-4-(1). P2 AND P3 POSTS ADJUSTMENT

Equipment required:
Alignment Tape (PAL/SECAM: VFJ8125H3F)
(NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

(1) Connect the oscilloscope to the output of the Head Amp as shown in Fig. M6.

NOTE: To get a stable waveform of the Head Amp output (observation point TW3001 and TW2001 located on Main C.B.A.) on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig. M6.

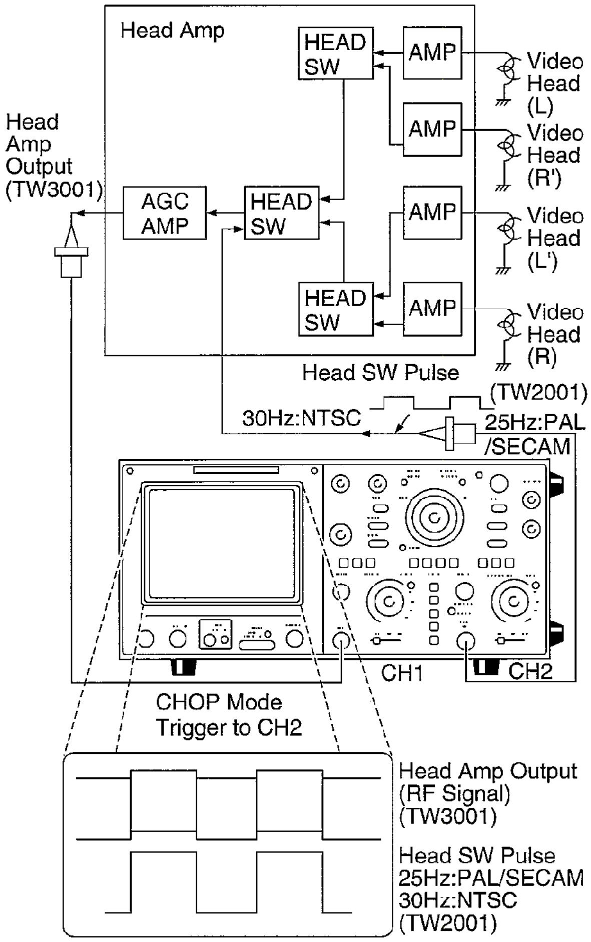

Head Amp
HEAD SW
AMP
AMP
AMP
AMP
HEAD SW
HEAD SW
AGC AMP
Video Head (L)
Video Head (R')
Video Head (L')
Video Head (R)
Head Amp Output (TW3001)
Head SW Pulse
(TW2001)
30Hz:NTSC
25Hz:PAL /SECAM
CH1
CH2
CHOP Mode Trigger to CH2
Head Amp Output (RF Signal) (TW3001)
Head SW Pulse 25Hz:PAL/SECAM 30Hz:NTSC (TW2001)

Fig. M6 Connect of Oscilloscope

(2) Playback the Alignment Tape.

(3) If the RF envelope appears like example "A" or "B" in Fig. M7, then adjustment of the tape guide post (P2: Entrance) is necessary.

(4) Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig. M7 "C".

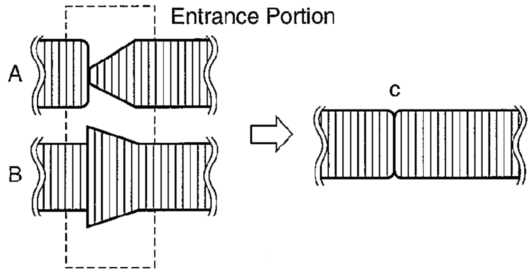

Entrance Portion
A
B
C

Fig. M7

(5) If the RF envelope appears like "D" or "E" in Fig. M8, then adjustment of the tape guide post (P3: Exit) is necessary.

(6) Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig. M8 "F".

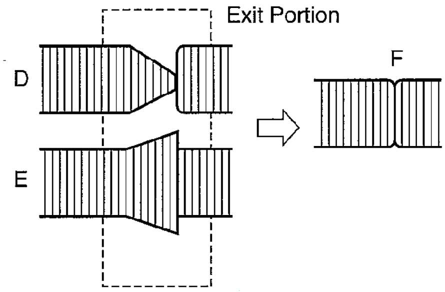

Exit Portion
D
E
F

Fig. M8

(7) Keep pressing the tracking up/down (∧ or ∨) buttons on the remote controller unit. The output envelope should vary nearly parallel with other condition as shown in Fig. M9.

(8) Set the tracking control into center fix position by pressing the tracking up/down (∧ and ∨) simultaneously and adjust for maximum RF envelope, whilst being as flat as possible.

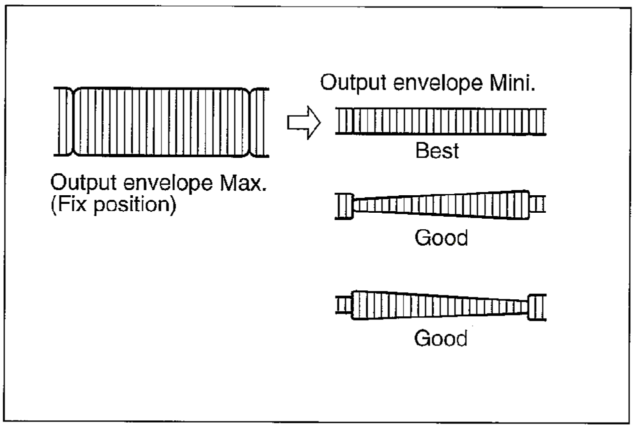


Fig. M9

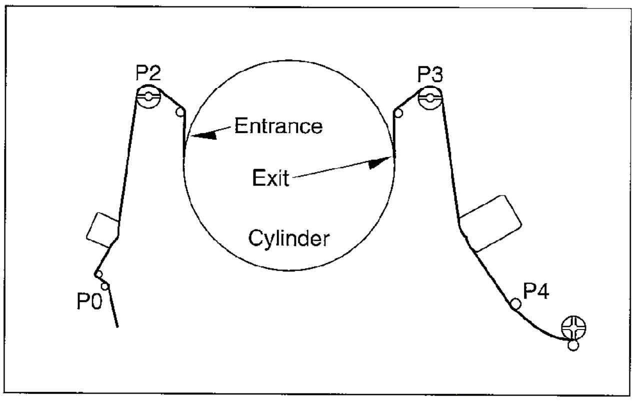


Fig. M10 Loading of Posts

5-4-(2). ADJUSTMENT OF P4 POST

(1) Install A/C Head on the Mechanism Chassis by one screw.

(2) Playback the Alignment Tape.

(3) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 Post.

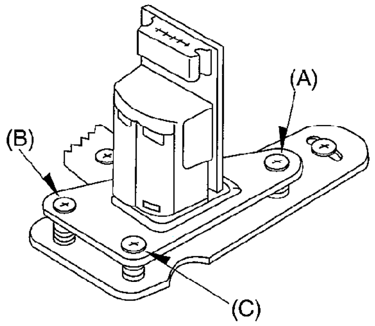
(4) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 Post.

(5) Connect the oscilloscope to audio output terminal.

(6) Rotate the screw (C) until audio signal is maximized.

NOTE: 1. The relation between the rotation direction of screws (A) and (B) and the condition of wrinkle on the lower edge at P4 Post as shown in Fig. M11.

2. Make sure that there is not the inclined wrinkle between P4 Post and Pinch Roller.



	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTER CLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M11

5-4-(3). HEIGHT ADJUSTMENT OF A/C HEAD

<When moving the A/C Head up>

(1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 Post.

(2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.

(3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

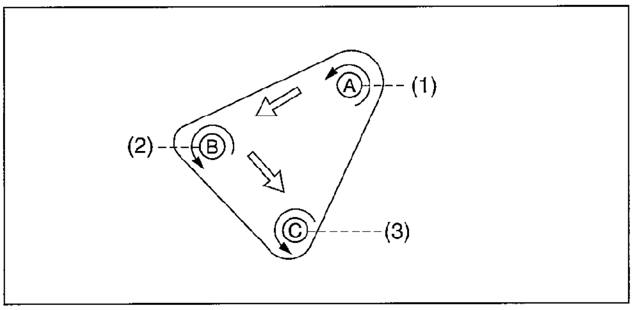


Fig. M12

<When moving the A/C Head down>

(1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape at P4 Post.

(2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.

(3) Rotate the screw (C) clockwise until the audio signal is maximized.

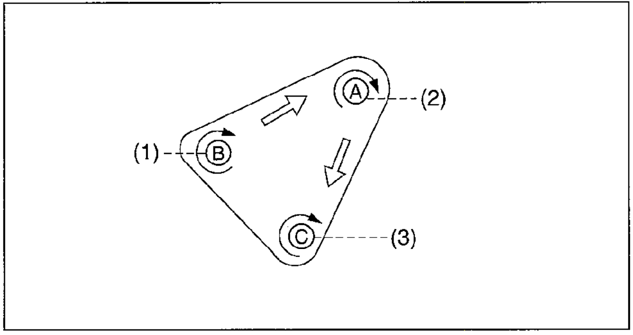


Fig. M13

5-4-(4). FINE-ADJUSTMENT OF A/C HEAD

(1) Connect the oscilloscope to the output of the Head Amp as shown in Fig. M6.

(2) Playback the Alignment Tape.

(3) Make sure that the condition of the wrinkle at P4 Post. If the condition of the wrinkle is out of specification, P4 Post adjustment has to be performed as follows.
Turn the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 Post.
Turn the screw (A) clockwise until the wrinkle disappears on the lower edge of tape at P4 Post.

(4) Turn the screw (C) until the audio signal is maximized.

NOTE: Make sure that the audio output does not increase when push the upper and lower edges of tape around A/C Head.

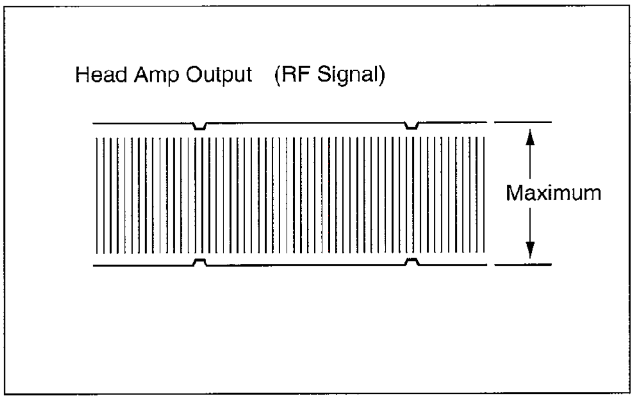


Fig. M14

5-4-(5). ADJUSTMENT OF X-VALUE (PREADJUSTMENT)

Equipment required:
Fine Adjustment Gear Drive (VFK0330)
Specification: Less than 15 msec.

(1) Connect the oscilloscope to the audio output and the video output. Both output signals should be fixed by the external trigger.

(2) Playback the Alignment Tape and set the tracking control into center fix position.

(3) Adjust A/C Head position by the Fine Adjustment Gear Driver (VFK0330) to meet the signal fault portion of the audio output and the video output signals (Less than 15 msec.).

(4) After meeting the signal fault portion, adjust A/C Head position by the Fine Adjustment Gear Driver (VFK0330) until the video envelope is maximized.

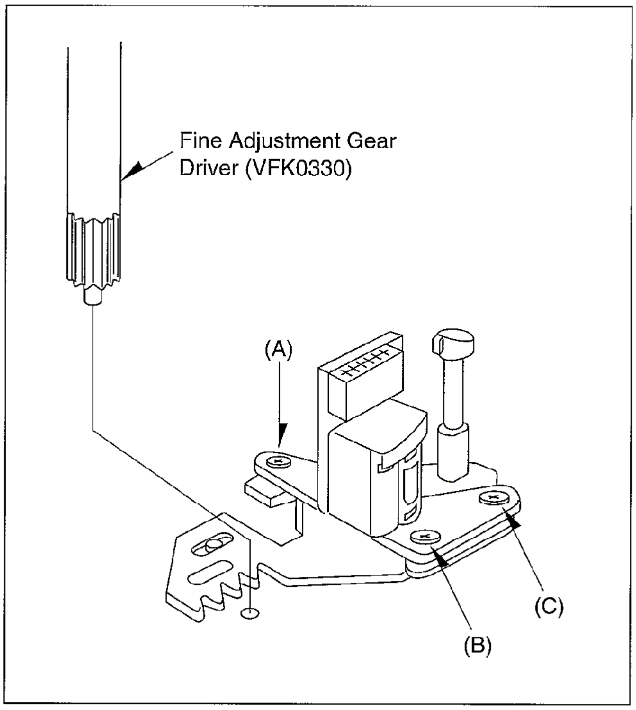


Fig. M15

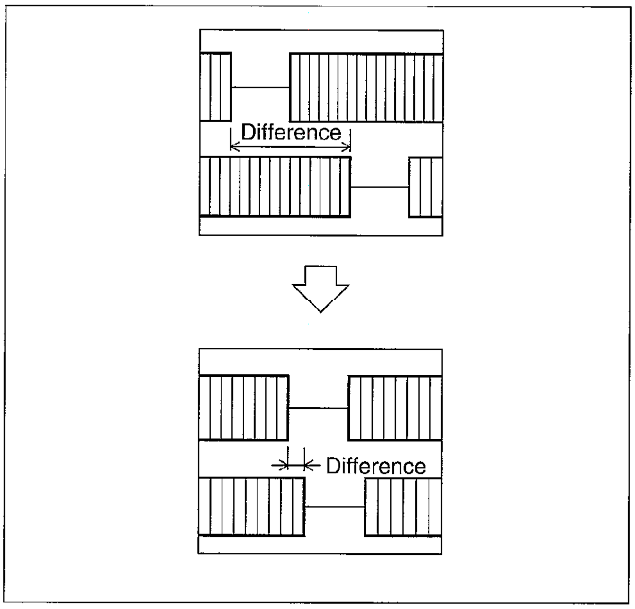


Fig. M16

5-4-(6). FINE-ADJUSTMENT OF X-VALUE

Equipment required:
Fine Adjustment Gear Drive (VFK0330)

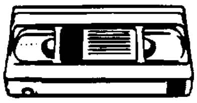
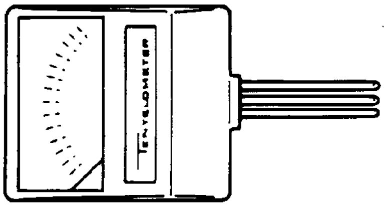
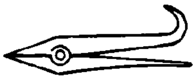
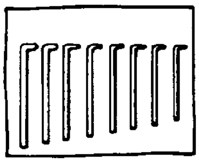
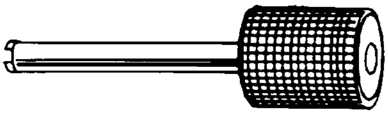
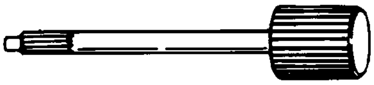
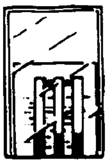
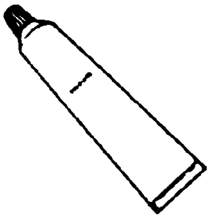
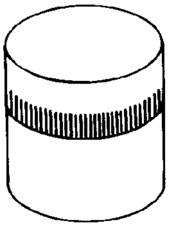
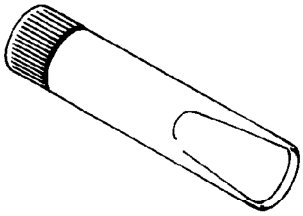
(1) Connect the oscilloscope to the audio output and the video output. Both output signals should be fixed by the external trigger.

(2) Playback the alignment tape and set the tracking control into center fix position.

(3) Adjust A/C Head position by the Fine adjustment Gear Driver (VFK0330) until the video envelope level is maximized at the tracking center fix position.

NOTE: During X-Value Fine Adjustment, in case the video envelope level became 0, Preadjustment of X-value should be adjusted again due to it is possibility to vary the X-value adjustment.

Servicing Fixtures & Tools

VFJ8125H3F PAL VHS Alignment Tape VFM8080HQFP NTSC VHS Alignment Tape 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.) 	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 	VFK0329 Post Adjustment Screwdriver 	VFK0330 Fine Adjustment Gear Driver 
VFK27 Hand Cleaning Stick 	VFK1024 Morlytone Grease 	VFK1298 Floil Grease 
VFK1301 Silicone Grease 		

6. SELF-TEST INDICATION DISPLAY

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, one of the following fault indication codes will automatically appear in the VTR display. Fault indication codes are displayed in the form of a single English letter followed by two numbrs, as for example "H01".

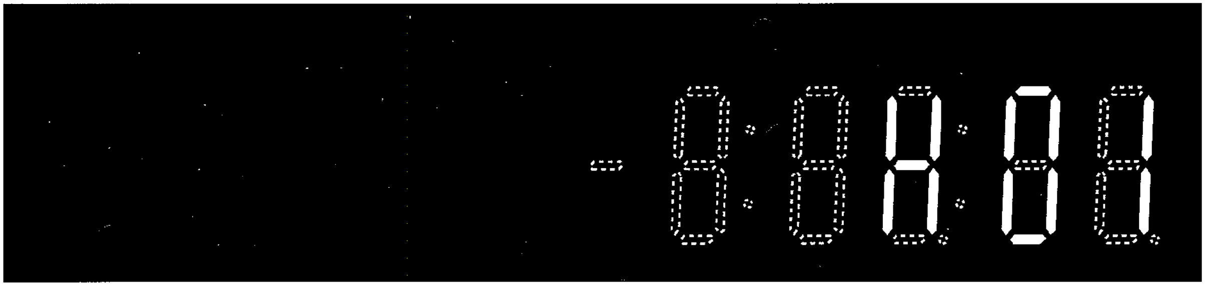
Note:
1. The indication "U" is displayed on the FIP while power remains on.
2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off

   When the power is turned on again, the fault indication code will disappear and the unit will retrun to normal display mode (either clock or counter is displayed).
3. This fault indication code will be stored in the Timer microprocessor even with the AC plug disconnected.

   The two-digit number portion of the stored fault indication code can be redisplayed in the FIP's "second" display portion (the last 2 digits on the light) by placing the unit is Service Mode Number 2 when turning on Service Information Display as for example "01" or "02" etc.

   If a second error occurs, only the most recent error will be displayed and stored.
4. To erase the stored fault indication code data, Press FF, REW and EJECT buttons for 5 seconds.

< FIP >



INDICATION	CAUSE	REMEDY/CHECK
U 10	Dew formation.	Wait until the indication disappears.
U 11	Cylinder clogs during the play mode.	Cleaning the cylinder.
H 01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder motor drive circuit.
H 02	Cassette tape is not wound up during tape unloading except Eject mode.	Check the capstan motor drive circuit.
F 03	Mechanism locks during mode transition except Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the mode switch.
F 04	Mechanism locks during tape unloading.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment.
F 05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan motor drive circuit. 2. Check the Supply/Take-up reel pulse.
F 06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment for cassette holder unit.
F 07	During recording mode recording signal is less than the normal condition.	Protection of the overcurrent flowing in transistor which produce the power supply for recording mode.
F 09	No communication of the main serial (between the system control and FIP driver control).	Check the system control microprocessor.

Fig. T1 Self-Test indication Display

7. SERVICE INFORMATION DISPLAY

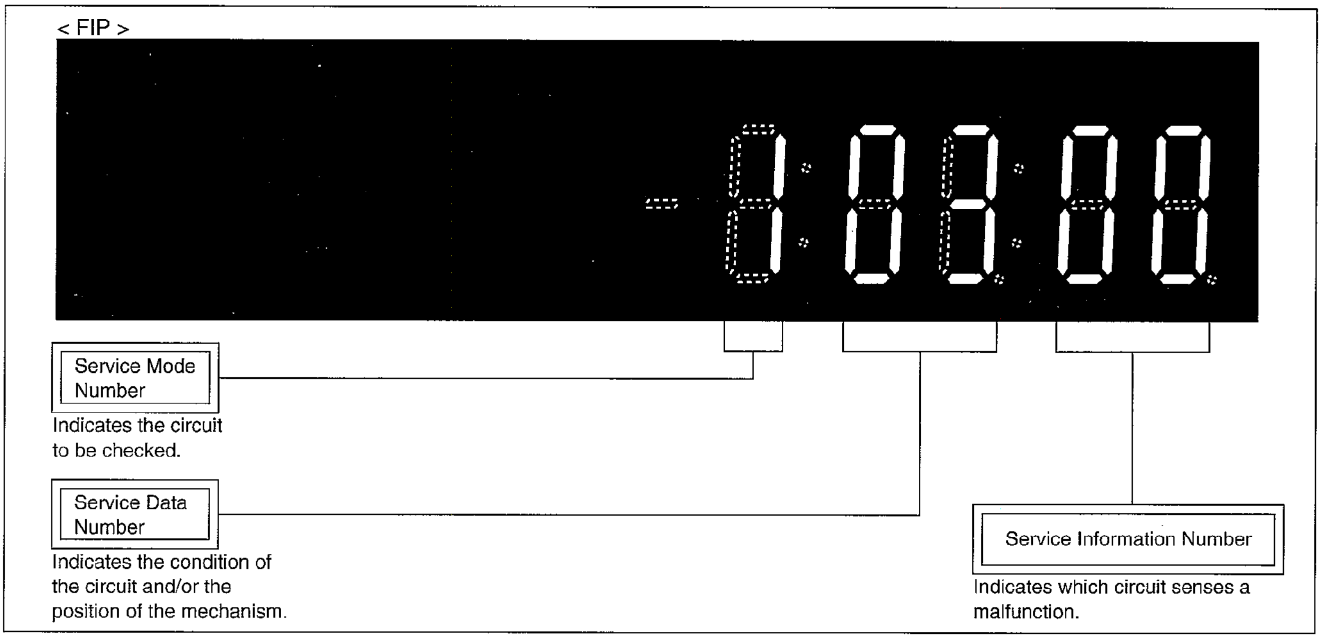

< FIP >
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

7-1 Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

7-2. Turning on Service Information Display

Press FF, REW and EJECT buttons simultaneously.

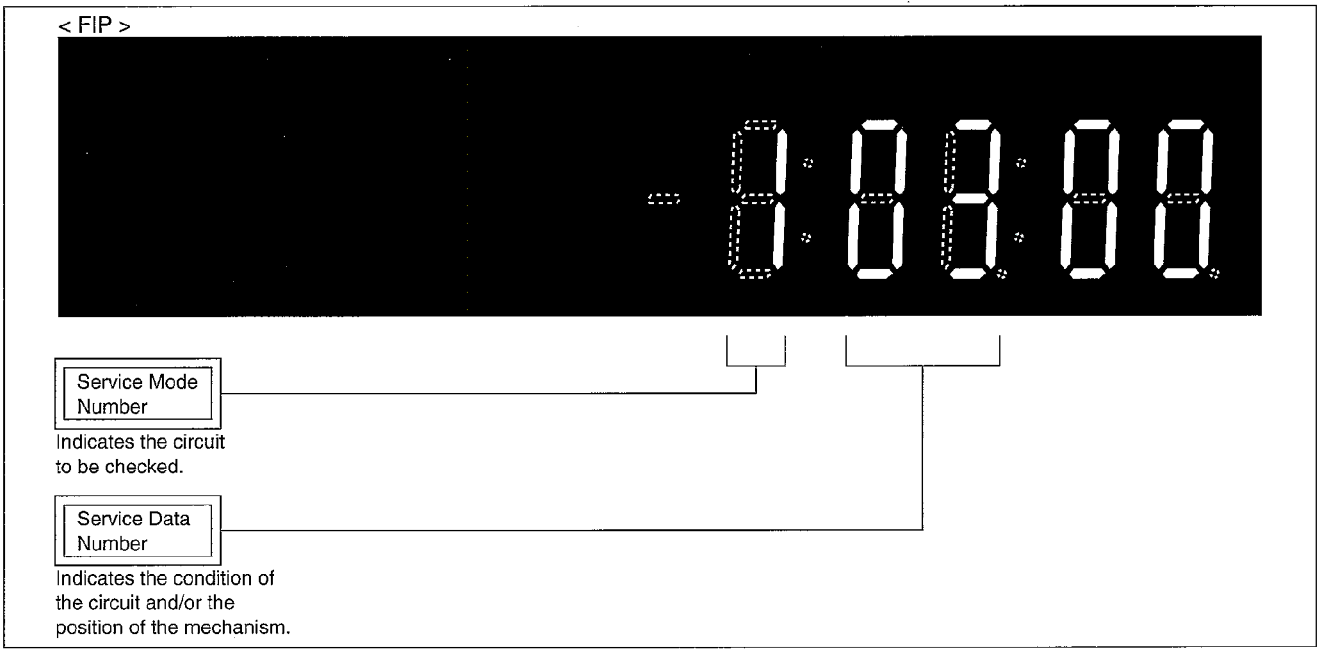
In the Service Information Display, there are four digits divided into 3 functions.

The first digit indicates which of the 7 service modes that the unit is currently in.

MODE 1: Checks tape protection circuit.
MODE 2: Checks tape transport mechanism.
MODE 3: Checks mode switching operation.
MODE 4: Checks control buttons.
MODE 5: Checks capstan motor.
MODE 6: Checks cylinder motor.
MODE 7: Checks loading/unloading operation.

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service infromation display. it is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is not supplied.



Indicates the circuit to be checked.

Indicates the condition of the circuit and/or the position of the mechanism.

Fig. D2 Service Mode Number and Service Data Number on F.I.P.

7-3. Use of Service Modes

(1) Turn on Service information Display.

(2) To change Service Modes Press FF, REW and EJECT buttons simultaneously.

(3) Mode 0: Not used.

(4) Mode 1: Checks that the sensor LED, Supply & Take-up sensor circuits checks the circuits by blocking the light from the sensor LED to either or both Supply & Take-up Sensors. When the light is blocked to both sensors, "00" should be indicated on the service data number.

When the light is blocked to the supply sensor, "01" should be indicated.

(5) Mode 2: Checks the mode switch circuit while indicating mechanism position.

Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(6) Mode 3: Checks that mode switch circuit operations have been completed.

Service Data Number should indicate "00" after each mechanism operation is completed.

(7) Mode 4: Checks the operation circuit.
Indicates if SYSTEM CONTROL IC receives the operating commands from the mode buttons and/or remote controller.

(8) Mode 5: Checks the capstan motor circuit.
Indicates if the SYSTEM CONTROL IC has received the command to rotate the capstan motor.

(9) Mode 6: Checks the cylinder motor circuit.
SYSTEM CONTROL IC has received the command to rotate the cylinder motor.

(10) Mode 7: Checks the loading/unloading operation.
The loading motor rotates for loading operation when the "PLAY" button is pressed.
The loading motor rotates for unloading operation when the "STOP" button is pressed.
This mode can be displayed indefinitely until the OPERATE button is pressed.

<NOTE> Refer to Fig. D5 for details of Service Data Numbers.

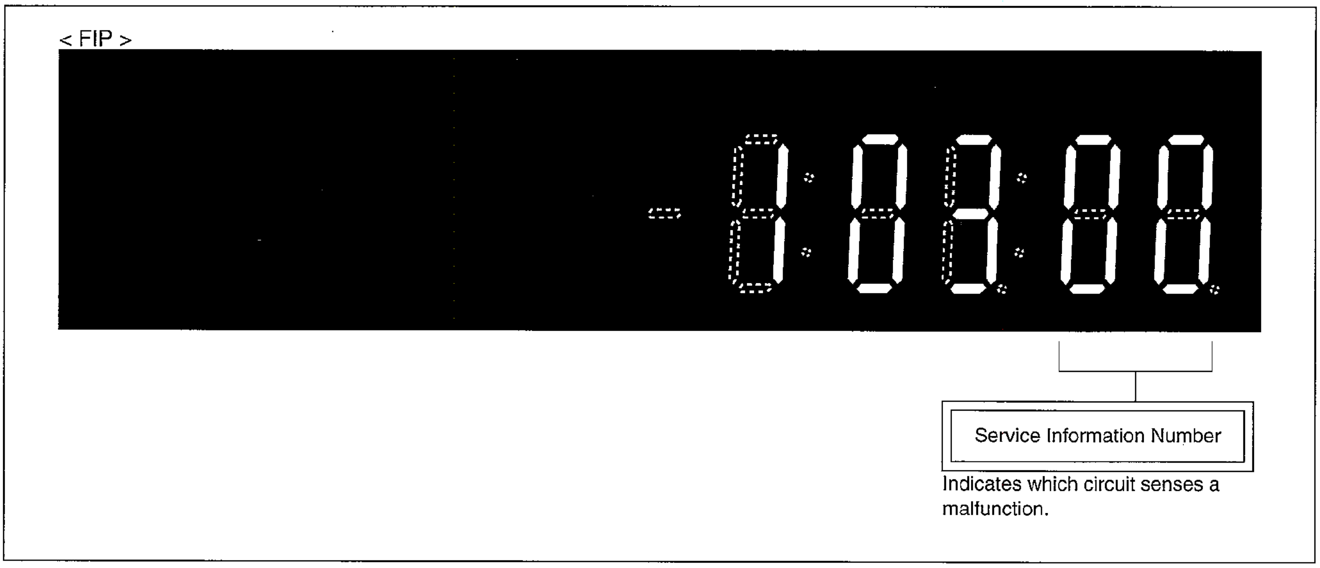

< FIP >
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D3 Service Information Number on F.I.P.

7-4. Service Information Number

Refer to Fig. D4 for details of Service Infromation Number.

NOTE: The Service Information Number display is independent of the service mode display. The Service Information Number will be stored as long as AC power is not supplied (If can be displayed in the Service Mode 2.)

If a second error occurs, only the most recent error will be displayed.

Service Information Number	Malfunction
00	Normal condition (No problem)
01	Cylinder stop
02	Tape reel stop
03	Stop at position other than 04 or 06
04	Stop during unloading
05	Fault capstan rotation
06	Stop during Cassette-in/Eject operation
09	Fault of the main serial communication (Between system control and FIP driver)

Fig. D4 Detail Service Information Number

7-5. Test Mode

When the test terminals are shorted during turning off condition, the following operation will be performed after AC power is applied. Test Mode Information will be displayed on FIP insted of linear counter.

(1) Power will be turned on automatically when AC power is applied.

(2) The direct operation of buttons are able to be performed.
(Examle) PLAY⟷REC, REC⟷EJECT

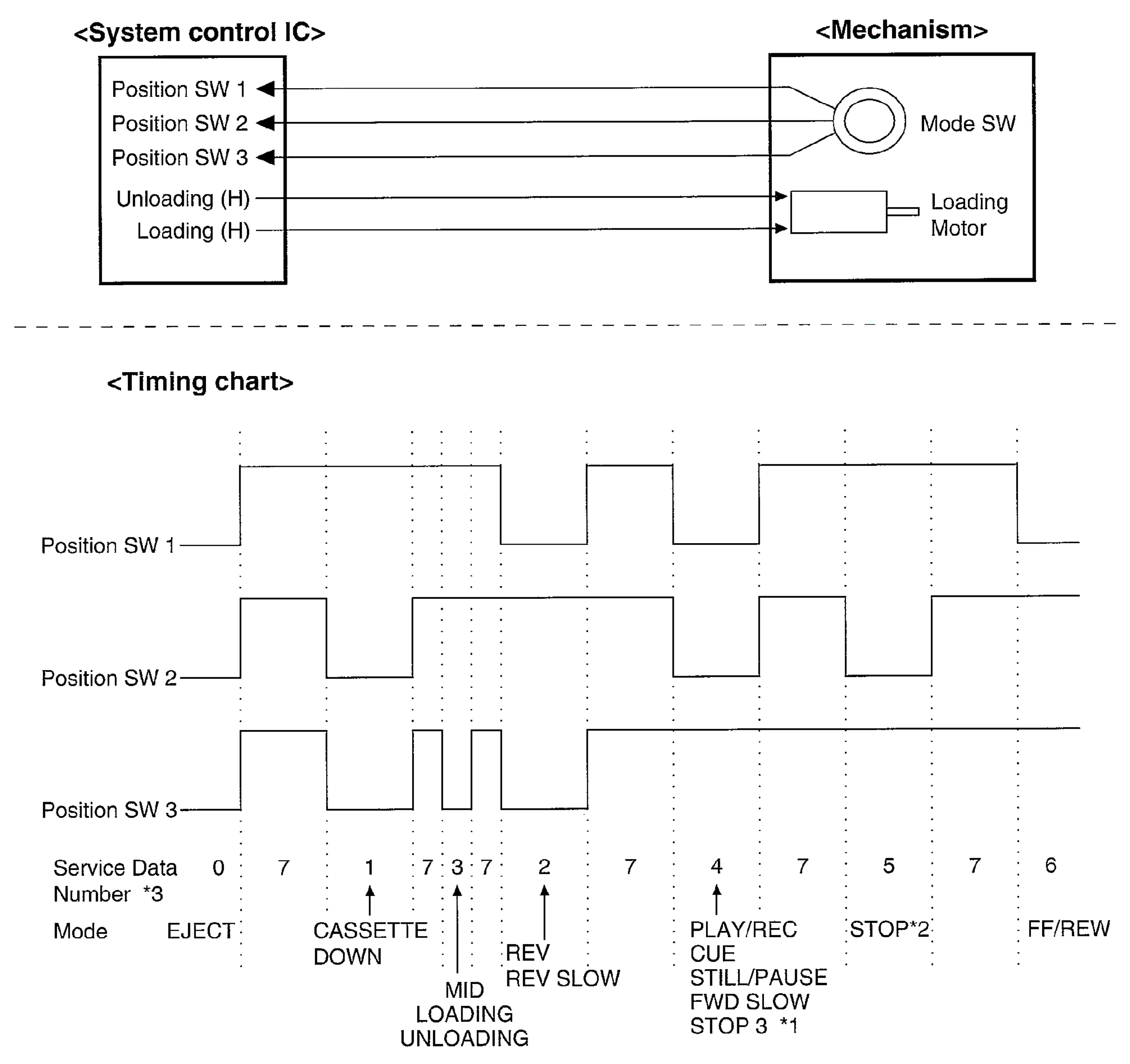
Service Mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	—	00	No light detected at either sensor	Tape not required.
		01	Tape beginning Light to Supply photo sensor is blocked.	
		02	Tape end Light to Take-up photo sensor is blocked.	
		03	Light detected at both sensors.	
2	—	00	EJECT	Tape required *1. STOP3: Pintch roller is on Capstan motor shaft. *2. STOP: Pintch roller is off Capstan motor shaft.
		01	Cassette down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY, REC, STILL, PAUSE, CUE, FWD SLOW, STOP3*1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape required.
4	Display only when the operating button is pressed.			Tape not required.
5	Left digit only, disregard Right digit display.	8 1 Left Right Digit Digit	8, 9, u, A, —, n, L and no display indicate that the Capstan motor "PLAY" command received by System control microprocessor.	Tape required. If a symbol other than those listed is displayed, a mulfunction in that circuit is indicated.
	Right digit only, disregard left digit dispaly.	8 7 Left Right Digit Digit	1, 2, 3, 4, 5, 6, 7 indicate that the Capstan motor "CUE, FF, FWD SLOW" commands received by system control microprocessor.	
	Right digit only, disregard left digit display.	8 — Left Right Digit Digit	8, 9, u, A, —, n, L and no display indicate that the Capstan motor "Reverse, REW, Reverse Slow" commands received by system control microprocessor.	
6	Left digit only, disregard Right digit display.	1 0 Left Right Digit Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by system control microprocessor.	Tape required. If a symbol other than those listed is displayed, a mulfunction in that circuit is indicated.

Fig. D5 Service Data Display and Indication

7-6. Timing chart from Mode SW to System control IC

System control IC senses the mechanical position through the Mode SW.

Fig. D6 shows the timing for service mode number 2.



<System control IC>
<Mechanism>
Position SW 1
Position SW 2
Position SW 3
Unloading (H)
Loading (H)
Mode SW
Loading Motor
<Timing chart>
Position SW 1
Position SW 2
Position SW 3
Service Data Number *3
0 7 1 7 3 7 2 7 4 7 5 7 6
Mode
EJECT
CASSETTE DOWN
MID
LOADING
UNLOADING
REV
REV SLOW
PLAY/REC
CUE
STILL/PAUSE
FWD SLOW
STOP 3 *1
STOP*2
FF/REW

*1 : Stop 3 ;The Pinch roller is on the Capstan motor shaft.

*2 : Stop ;The Pinch roller is off the Capstan motor shaft.

*3 : Service Data Number; This is for Service Mode Number 2.

Fig. D6 Timing chart of Mode SW

8. SYSTEM CONTROL CIRCUIT & MECHANISM CONTROL CIRCUIT

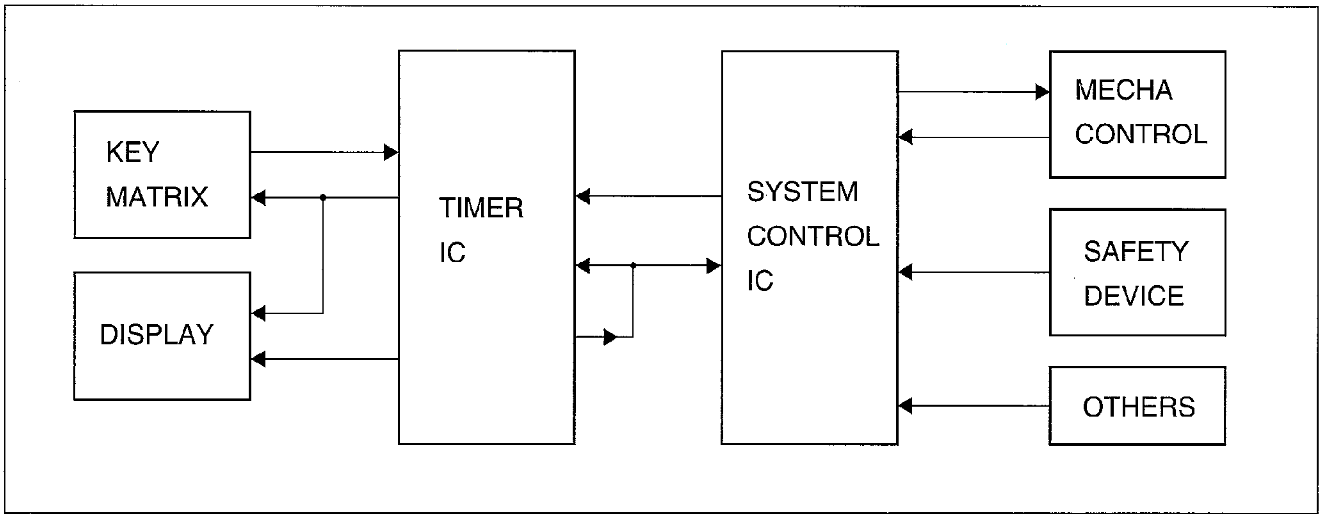


Fig. S1 Overall Block Diagram of System Control Circuit

8-1. STOP3 Specification

(1) The STOP3 is the playback stand-by mode.

(2) The unit is put into the STOP3 position after tape loading if the cassette tape does not have a clear leader tape.

(3) If the unit is in the STOP3 position when the power is switched off (included the Timer stand-by mode), the unit goes to the STOP position.

(4) If the cassette is in the unit when the power is turned on, the unit goes to the STOP3 position.

(5) When the cassette tape has clear leader tape, the unit is in loading mode after winding up the clear leader tape by Take-up reel at the cassette down position and the unit goes to STOP3 position.

8-2. Stand-by in the STOP3 position

(1) The unit goes to STOP3 position when the Stop mode is selected during the Play or Rec operations. The unit then loosens the tape tension by performing the Reverse Slow.

The Reverse Slow corresponds to the FG 40 pulses of the capstan (irrespective of SP/LP modes). The cylinder continues to rotate.

(2) After about 10 minutes in STOP3 mode, the unit shifts to the Stop position and the cylinder continues to rotate.

(3) After about 10 minutes in STOP mode, the unit stops the cylinder rotation.

8-3. Supply and Take-up Sensors

Supply and Take-up photo transistors are used to sense the beginning and end of a tape. The tape has transparent leaders at the beginning and end.

When these transparent leaders enter the tape transport path, they allow infrared light from the sensor LED to reach either one of the tape end sensors (photo-transistor).

If the Take-up end sensor detects the light, the microprocessor SYSTEM CONTROL IC places the VCR in the Stop mode and then performs a short Cue.

If the Supply end sensor is triggered, the microprocessor activates the Stop mode and the Rewind mode. The Rewind mode continues until the Take-up end sensor detects the end of the tape. The tape beginning is detects by a low signal at SYSTEM CONTROL IC Take-up photo terminal. The tape end is detected by a low signal at SYSTEM CONTROL IC Supply photo terminal.

If the light is received at both sensors at same time, the cassette is ejected.

<Operation after detecting the beginning and the end of tape>

Mode	Detection of the beginning	Detection of the end
Power on→off	Short CUE	Short REW
Cassette in	Short CUE	Short REW
Loading	Short CUE	Short REW
FF/CUE	——	Auto REW
REW/REV	Short CUE	——
PLAY, REC	——	Auto REW
SLOW	——	Auto REW
Timer REC	——	Power off

Both ends of tape detection (tape cut, no cassette),

(1) Cassette in: The cassette tape is ejected

(2) Other mode: The unit goes to Stop mode and it is impossible to operate except EJECT key.

(3) Timer REC: Power is turned off after short CUE is performed

8-4. Safety Tab Switch

A recorded video cassette can be protected against accidental erasure by breaking off the tab on the cassette. The cassette can now only be used for playback. To be able to record on the cassette, cover the hole with adhesive tape. If the safety tab on the cassette has been removed, Safety Tab Switch is off (open) and high signal is supplied to SYSTEM CONTROL IC Safety Tab terminal. The SYSTEM CONTROL IC will not go into the recording mode and automatically places the VCR in the playback mode.

8-5 Dew Sensor

If excessive moisture or condensation is present inside the machine (an internal humidity of more than 98%) the unit will stop if running. Until the moisture level decreases only the Eject mode will operate. To sense the humidity, a dew sensor is used. The sensor is a special variable resistor which change resistance with ambient humidity.

The sensor ranges in resistance from about 5K ohm at 90% humidity to about 50K omh at 98% humidity. Normally, the voltage across the sensor is low because of its low resistance.

But if moisture condenses inside the unit, the SYSTEM CONTROL IC voltage of Dew terminal increases to indicate a Dew condition.

Tape	Mode	Dew sensor ON	Dew sensor OFF
OUT	Power	Compulsory Power on	Power off
	Dew indication	Indicate “d” and “U10”	No indication
	Cylinder	Rotating *1	Stop
	Key operation	Not possible *2	Possible
	Cassette in	Immediately a cassette is ejected after it goes to cassette down position.	Possible
IN	Power	Compulsory Power on	Power off
	Dew indication	Indication “d” and “U10”	No indication
	Cylinder	Rotating *1	Stop
	Key operation	Not possible *2	Possible
	Cassette condition	A cassette goes to down position and is in stand-by mode.	Stand-by mode at STOP3 position.

*1: When the cylinder locks in dew mode, it will be released until dew sensor is truned off.

*2: The keys which do not relate to the tape running operation, are able to be used.

Dew sensor on:	During Dew formation is detected and 80 minutes after completion of Dew detection.
Dew sensor off:	80 minutes later after copmletion of Dew detection.

8-6. Setting time for each mode

The time is set on each mode in order to protect tape and capstan driver. When the setting time is over, the mode is gone to the next mode.

Mode	Setting time	Switching mode
STILL, PAUSE	Approximately 5 minutes	STOP
CUE/REV lock	Approximately 10 minutes	PLAY
SLOW, F ADV	Approximately 10 minutes	STOP

8-7. Operation of short CUE

Short CUE stops when the Take-up photo sensor detects the black portion of the tape.

However its sensor does not detect the black portion within 4.0±1.0 sec., the mode except Power on/off and Eject modes will be abe to be operated after the unit stops. This is same as the timer over oeration of the reel lock.

8-8. Loading/Unloading Mechanism lock

Loading and unloading times are set, and in case the mechanism locks during loading or unloading operation within the defined time, the unit detects the mechanism lock and loading motor reverses or stops.

Loading operation lock:	Cassette tape is unloaded and ejected within 5 seconds.
Unloading operation lock:	Power is truned off within 5 seconds.

8-9. Cassette loading/unloading lock

(1) Mechanism locks during the cassette in operation.

① Cassette tape is ejected approximately 2 seconds later when the mechanism locks during the cassette in operation.

② In case mechanism locks during eject operation, cassette tape is inserted and power is turned off approximately 2 seconds later.

③ When Mechanism locks during cassette in operation, power is turned off approximately 2 seconds.

In case the mechanism lock is released on the way and cassette is ejected, the unit continues the normal operation.

(2) Mechanism locks during the eject operation.

① Cassette tape goes to cassette down position approximately 2 seconds later and power is turned off when mechanism locks during eject operation.

② Mechanism locks during cassette down operation, power is turned off.

8-10. Reel lock operation

When the Suuply or Take-up reel mechanism locks during the tape running, the following operation is performed.

FF/REW : Unloading and loading. The unit goes to CUE/REV mode.

PLAY/CUE/REC : Unloading till the cassette down position and loading. The unit goes to STOP3 position.

RVS PLAY/REV : Unloading till the cassette down position and loading. The unit goes to STOP3 position.

The reel pulse cycle is started to count after the mechanism mode is fixed.

In case the counted pulse cycle exceeds the defined value, the unit goes to STOP mode due to judge that lock of reel mechanism is detected.

<The value of reel lock detection time>

NTSC/SP mode

Mode	Speed (Ratio)	Time (S)
PLAY	±1	3.5
CUE/REV	±5	1.6

PAL/SP mode

Mode	Speed (Ratio)	Time (S)
PLAY	±1	3.5
CUE/REV	±5	1.6

The reel lock time in FF/REW mode is 800msec.

When the tape speed is less than 0.23m/s, reel lock is judged.

8-11. Cylinder lock

<Start rotation>

When the cylinder neither start rotating nor go to the stability rotation within 5 seconds, it is unloading under keeping the mode. In case the cylinder starts operating and stability rotation, the mechanism goes to STOP3 position.

If it is not possible, Power is turned off and cylinder trouble “H01” is displayed.

<During rotation>

The head switching pulse is supplied to the cylinder when the cylinder starts the stable revolution. In case the head switching pulse comes to the cylinder within 0.5 seconds, the cylinder lock is judged and the following operation is activated.

Timer REC: Power off

PLAY, REC: STOP

8-12. Mode transition

The relation between the present mode and operation key is shown in the following table.

PRESET MODE	OPERATION KEY							
	P SW	EJECT	STOP	REW	FF	PLAY	PAUSE	REC
P-OFF	P-ON	EJECT	——	——	——	PLAY	——	——
EJECT	P-OFF	——	——	——	——	——	——	——
STOP	P-OFF	EJECT	——	REW	FF	PLAY	——	REC
REW	P-OFF	EJECT	STOP	REV	FF	PLAY	——	——
FF	P-OFF	EJECT	STOP	REW	CUE	PLAY	——	——
REV	P-OFF	EJECT	STOP	——	CUE	PLAY	STILL	——
CUE	P-OFF	EJECT	STOP	REV	——	PLAY	STILL	——
PLAY	P-OFF	EJECT	STOP	REV	CUE	——	STILL	——
STILL	P-OFF	EJECT	STOP	REV	CUE	PLAY	PLAY	REC PS
REC	P-OFF	——	STOP	——	——	——	REC PS	*1
REC/PS	P-OFF	——	STOP	——	——	——	REC	——

*1: VISS WRITE

Pressing two keys simultaneously, the key operation is going to be ineffective.

In case the unit goes to CUE/REV lock mode by pressing FF/REW key lightly during Play mode, CUE/REV mode will be returned previous mode when FF/REW key is pressed more than 0.7 seconds.

8-13. Power on reset

When the power is turned on, the unit is going to reset and the following datas are cleared.

(1) Position switch data

(2) Operation mode data

(3) Prohibition flags

In case the mechanism is in cassette down position, tape slag is removed as the initial operation and the unit goes to STOP3 position.

8-14. Linear time counter operation

The counter value will be gone up/down by counting control pulse. As for NTSC system during Play/Rec mode, counter value goes up/down every 30 pulses. As for PAL system during Play/Rec mode, counter value goes up/down every 25 pulses.

8-15. Tape speed in CUE/REV mode

	NTSC	PAL
Standard	9 times	11 times

8-16. Automatic functions

(1) Automatic Power on

① Under power off, when a cassette tape is inserted, power is turned on automatically and cassette tape is loaded.

② Under power off and a cassette tape has been inserted, when PLAY key is pressed, power is turned on automatically and goes to PLAY mode.

(2) Automatic play

When a cassette tape removed safety tab is loaded, the mode goes into Play mode.

(3) Automatic rewind

When tape running is reached to the end of tape, automatically goes to Rew mode and stops when tape running will be reached to the beginning of tape.

In case of Timer recording, short Rew is performed for 2 seconds and power is turned off when tape running is reached to the end of tape.

(4) Power off and Eject

Under power off and a cassette tape has been inserted, when Eject key is pressed, a cassette tape is ejected and power is turned off

8-17. CUE/REV lock mode

When FF/REW key is pressed lightly (less than 0.7 seconds) during Play mode, unit goes into CUE/REV mode. To release CUE/REV mode, FF/REW key should be pressed more than 0.7 seconds.

8-18. FR (Forward/Reverse) search mode

When FF/REW key is pressed during FF/REW mode, unit goes into CUE/REV mode.

To release CUE/REV mode, FF/REW key have to be pressed.

8-19 FF/REW speed

Maximum tape speed is approximately 3.0 m/s during the stable running.

8-20 FF/REW time

The tape running from the beginning to the end of T-120 type (E-180 type) cassette tape is able to be completed within 150 seconds.

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